Smithsonian

July 1986

Chaplin unmasked (p. 46)
Here, Red Grooms' paper sculpture captures elusive Tramp—coming and going

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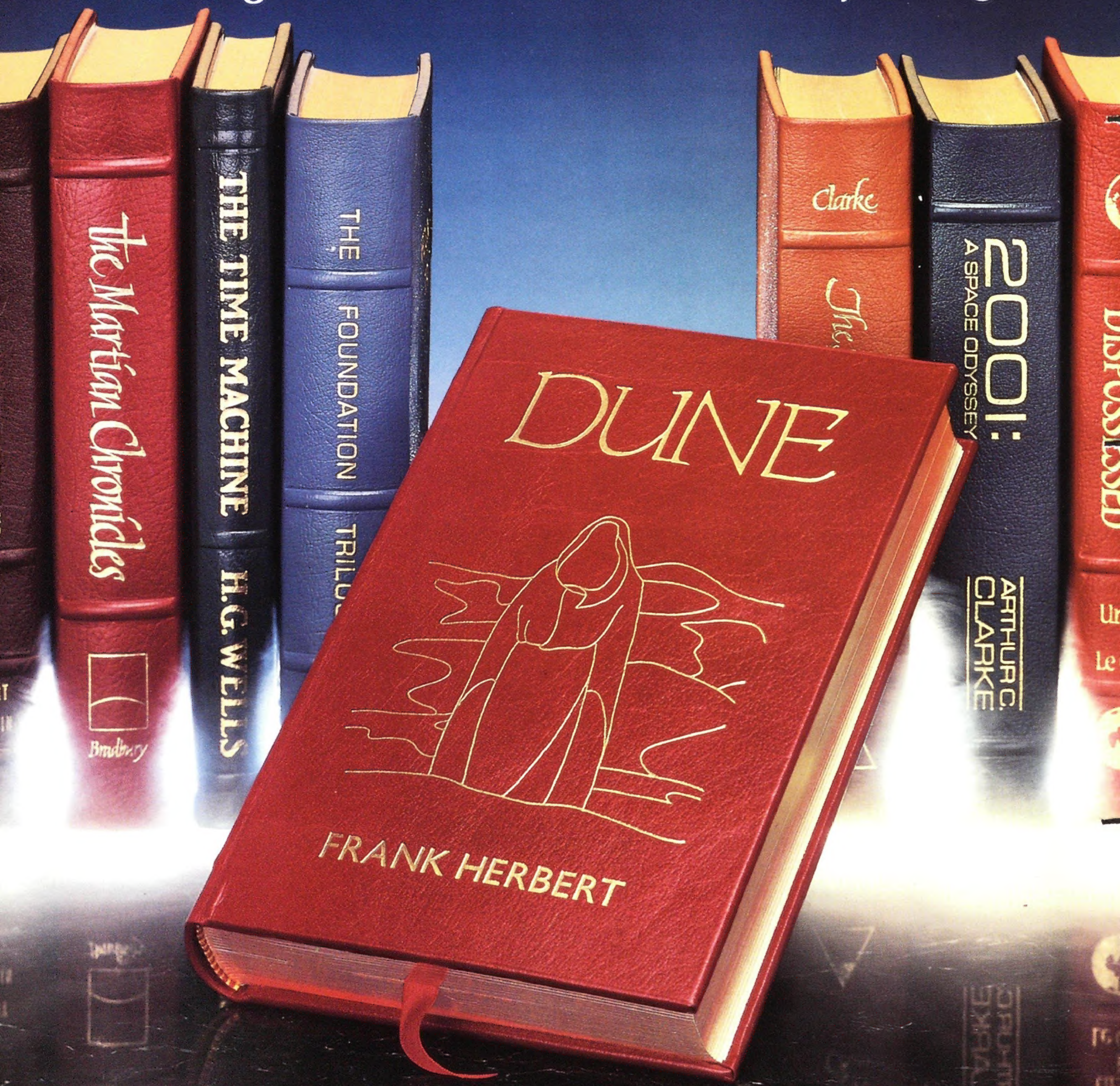

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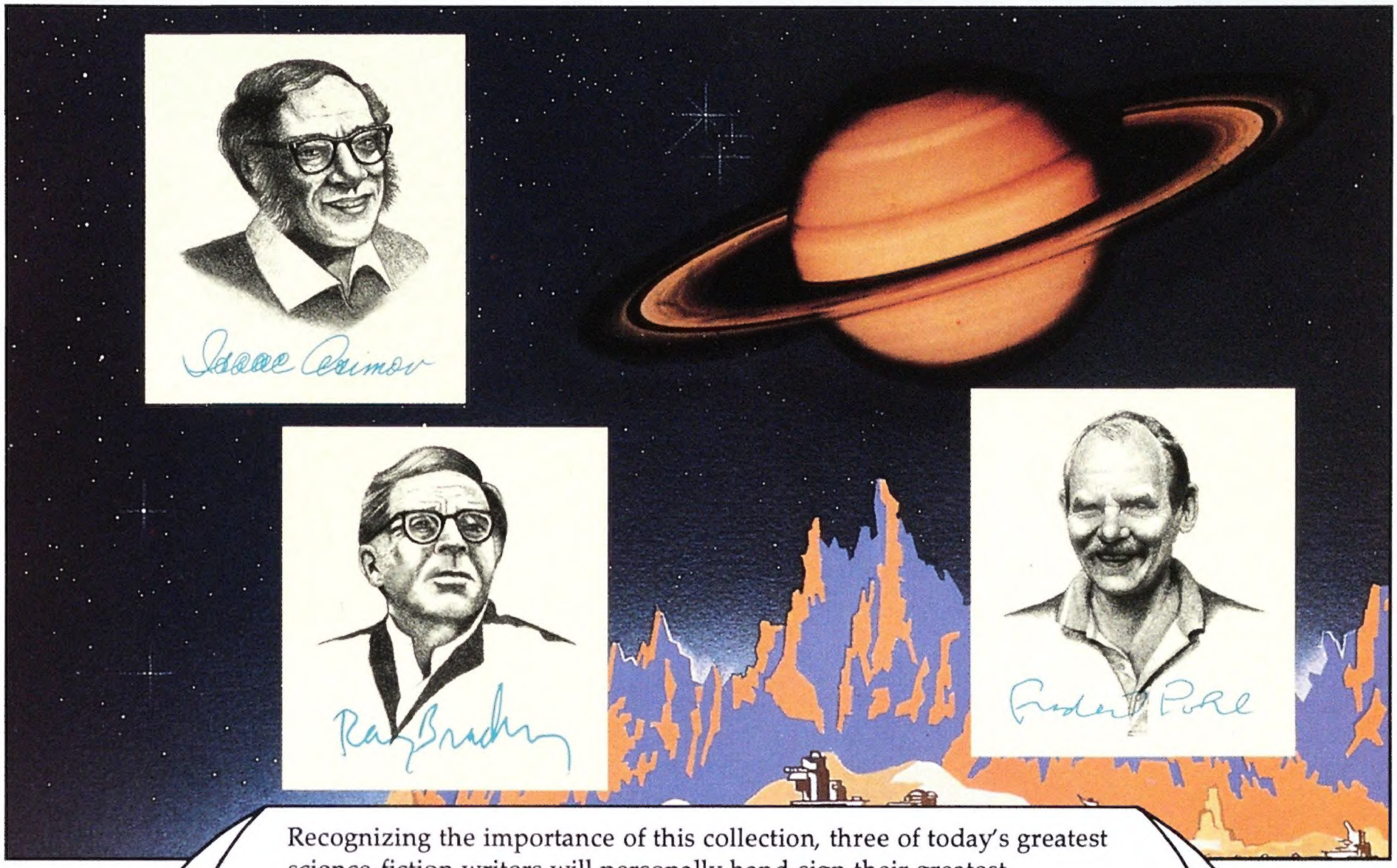

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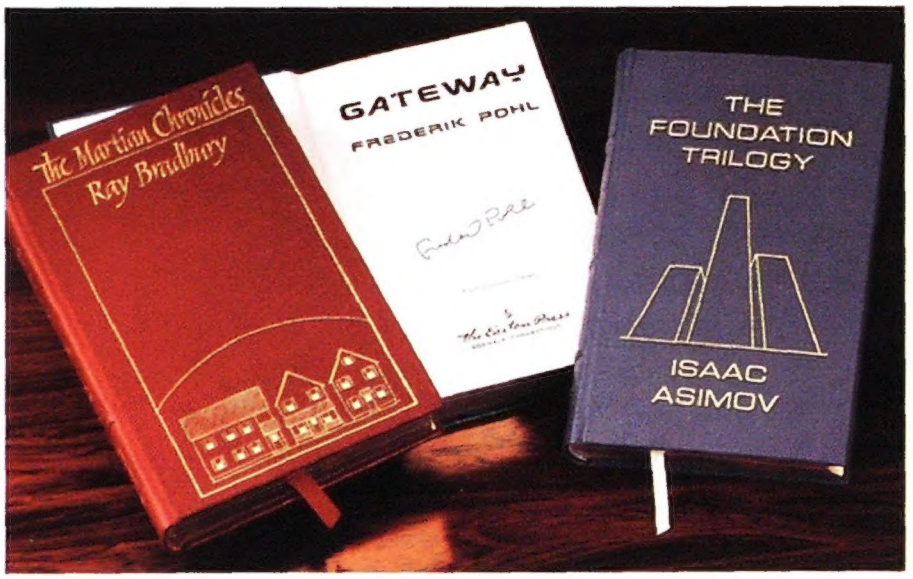

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July 1986

Smithsonian

Volume 17, Number 4

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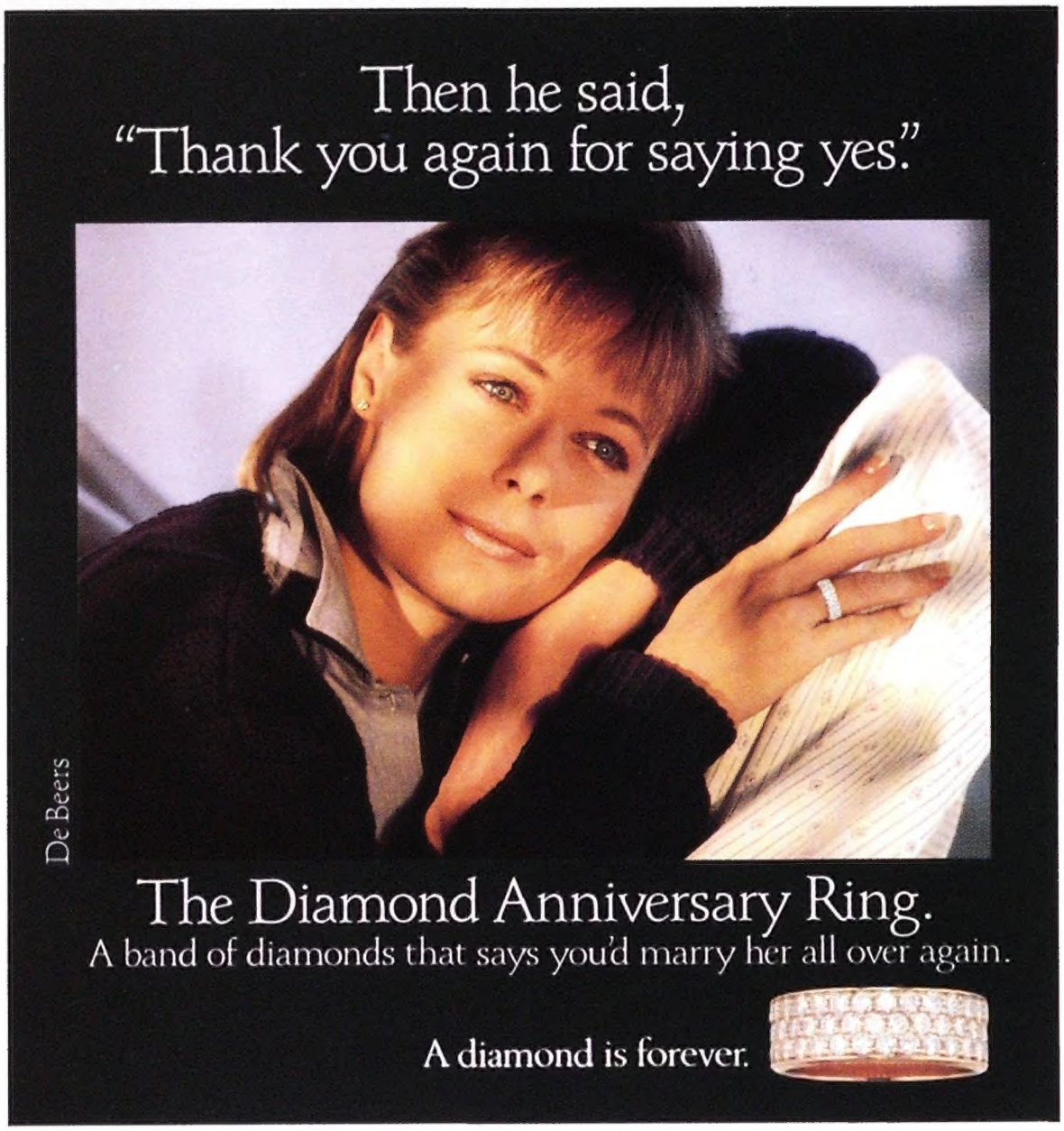
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Smithsonian horizons

A new exhibit, "After the Revolution," makes it easier for us to perceive what life was like two centuries ago

A recently opened exhibit at the National Museum of American History is built around three "period rooms," a traditional device in museum display. But in other respects both the study and the display of American domestic artifacts are continuing to take new directions. "After the Revolution" tells us a great deal about the earliest decades of our nationhood through its concentration on the lives of real individuals, their families and communities. The line between objects and the actual contexts of their use, between art history and social history, is thereby all but erased.

Samuel Colton was a prosperous merchant-farmer in the Connecticut River valley, who engaged in the West Indies rum-and-molasses trade and was one of the rare slave owners in his district. His stock was commandeered in the early days of the Revolution by a large party of his neighbors who considered him a profiteer as well as lukewarm in his patriotism.

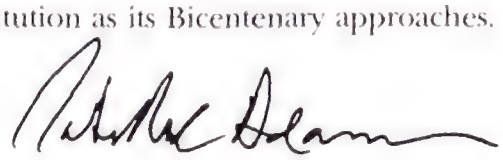
Thomas Springer and his family were yeomen farmers near Wilmington, Delaware, whose land, slaves and livestock holdings placed them in the upper tenth of taxables in Mill Creek Hundred. Henry Saunders was a Tidewater Virginia tobacco planter, on the margins of gentility, who ended his days in a penitentiary for the murder of his wife. Richard Allen, born a slave in 1760, was separated from his parents and siblings through their further sale. He succeeded in purchasing his freedom by 1783, traveled widely as a lay Methodist preacher, and later joined in founding the Free African Society in Philadelphia. As the first bishop of the National African Methodist Episcopal Church, he urged a continuing commitment on the part of free blacks to their still enslaved fellows and led in the opposition to the African recolonization movement.

Interest in early American decorative arts was part of the so-called Colonial Revival around the beginning of this century. Barbara Clark Smith, in a companion volume bearing the same title as the new exhibition (Pantheon Books, 1985), argues that it reflected both a reaction to the ills of industrialization and an assertion of a patriotic heritage by native elites concerned about the effects of the massive immigration of the time. "Where collectors led, museums followed," focusing on costly, beautiful objects that were selected and arranged according to current tastes.

By the time what is now known as the Museum of American History was planned in the late 1950s, "Everyday Life in the American Past" had become a unifying theme. Probate inventories were consulted to learn what 18th-century householders had actually owned. Ordinary furnishings and iron housewares began to find their way into the Hall of Everyday Life, as it was then called.

The field of vision of customary and mundane patterns now included the roles of women. But the aspirations and values of the "dominant American middle class" were stressed; references to seafarers, for example, overlooked the differences and tensions between masters and ordinary seamen. The concentration was "on the average man as opposed to the exceptional." Thus the new exhibit represents a further advance in a continuing, evolutionary process. At this rate, there may even be reason to hope that a place will presently be found among the individual exemplaries for a woman or two.

Fortunately, the Smithsonian's collections permit shifts in focus of this kind. The aim has always been to go beyond criteria of monetary value or esthetic quality. For one thing, judgments in those respects sometimes change radically. More important, the understandings, concerns and sensitivities we seek to communicate grow in unpredictable ways, reflecting trends within our own society that are often closely paralleled by equally unforeseeable changes within the discipline of American history itself. "After the Revolution" is really about how we, today, can perceive people, ideas and the general condition of life across a gulf of two centuries. It provides a setting, for example, against which to measure, and to wonder at, the extraordinary achievement of our Constitution as its Bicentenary approaches.



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Letters to the Editor

The Maya

Dear Sir: There is only one thing about William Weber Johnson's May article which may cause me trouble: it makes me want to go back to Copán, especially, and also to Palenque. I would want Dr. Linda Schele to be with me at Palenque. I want to stand before that tall wall of hieroglyphs in the Temple of Inscriptions and have Dr. Schele read 85 percent of them out loud.
Everett Gee Jackson
San Diego
Mr. Jackson, chairman emeritus of the Department of Art at San Diego State University, is an old Mexico hand who illustrated the Limited Editions Club's Popol Vuh, *the holy book of the Maya.* Ed.

Dear Sir: What a relief to read two articles in recent issues of SMITHSONIAN, Diego Rivera in February and this month the Maya, dealing intelligently and sensitively with the cultural resources of our Hispanic neighbors. Too often we are told to think of them in terms of comic strips or as social, economic or natural disasters.
T.J. Velasquez
Point Hueneme, California

Rhododendrons

Dear Sir: Among the many unmentioned hybridizers was Seattle's legendary Halfdan Lem. His successes read like a *Burke's Peerage* of the rhododendron world, and his deep red namesake is an award winner, while the shell pink "Lem's Cameo" received the Superior Plant Award in 1971. Unfortunately, his plants have not been grown extensively in the East.
Robert Leet
San Francisco

Dear Sir: Deserving of mention is the 20-acre Hendricks Park Rhododendron Garden in Eugene, Oregon. In 1950, members of the Eugene Men's Camellia and Rhododendron Society volunteered to help develop it and donated, from their own collections, all the early plantings. There is a continuous blaze of blossoms from late April into October, an annual extravaganza that draws visitors from all over the nation.
Kathryn Schneider
Eugene

Dear Sir: Not everyone who lives surrounded by rhododendrons is in love with them. John Updike devotes several pages of *Rabbit Run* to the feelings of a rhododendron enthusiast's widow, who snorts: "What do we want with all these corsages that after they're gone we have to look at their ugly leaves all the year round?"
Patricia M. Stuart
Northfield, Vermont

The Island of Sark

Dear Sir: The *Clameur de Haro* mentioned in your article as Sark's do-it-yourself injunction is more complicated than you make it sound. For it to be effective, the plaintiff must do all of the following: 1) bring a witness, 2) take off his hat, kneel and recite the Lord's Prayer in French, then 3) cry *"Haro, Haro, Haro! A l'aide, mon Prince, on me fait tort."*

At the 1985 *Clameur* cited by Mr. Foote, the validity of the complaint was challenged because it was claimed the plaintiff did not recite *all* of the Lord's Prayer.
Gerard King
Sark, Channel Islands, United Kingdom

Dear Sir: Mr. Foote's article took me right back to my two marvelous holidays there soon after World War II.

He does not mention the one-cell prison in which, we were told, the lawbreaker most likely to be incarcerated on Saturday nights would be the town drunk.

Not even the Dame's electric car was there then; the only motor-driven vehicle was a steamroller, for the preliminary crushing of rocks used to repair the roads. Tourists' feet did the rest.

On Sark I was able to get an all-over suntan, with not another human encountered all day and with no objection from the seagulls. When I returned to my London nursing job, I felt able to take on the whole world and all its medical miseries.
Kathleen L. Skinner
Eastsound, Washington

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Artificial flavors

Dear Sir: How could Ms. Shell have let stand William F. Zick's statement that there is no substitute for chocolate? There *is*, and it is not a synthetic but the carob, a delicious flavor very similar to chocolate. It can be bought as candy bars, chips or a powder similar to cocoa. Carob-coated nuts, raisins and other carob products are even sold in some supermarkets.

This delicious, nutritious palate-pleaser is native to the Mediterranean. Its black, sugary pods are sometimes known as "St. John's bread" in the belief that they may have been the "locusts" of St. John the Baptist who, as the Bible tells us, lived on "locusts and wild honey" while preaching in the wilderness.

Venetia Stoner
Lake Havasu City, Arizona

The brothers Grimm

Dear Sir: On Christmas Eve in 1917 I was sitting in my high chair as Mama rolled up my hair in rags. I was babbling on about Santa's expected visit when Mama paused, reached up to the top shelf of the cupboard and brought down a brand-new copy of *Grimm's Fairy Tales.*

Giving it to me, she explained Santa's responsibility to other, younger children. I was disappointed to lose Santa, but the huge book with its beautiful, crisp smooth pages and fantastic stories immediately took the place of Santa's gifts and was my treasured friend for many years.

Edna Nesbett Berti
Aptos, California

Errant socks

Dear Sir: Vincent G. Dethier's article on metamorphosis will clue Mr. Middleton to a fact I have known for years. The female of certain sock pairs deserts the third-drawer habitat and enters into a pupal stage as a brass key in the top drawer, one that fits no known lock. It is only in this state that it can migrate, in the dead of night, into the wife's closet to emerge in its final form as an excess coat hanger.

Irwin N. Schuster
Lynnfield, Massachusetts

Dear Sir: Three cheers for the modern mother who managed to convince her offspring to start the fad of wearing mismatched socks.

Armenie L. Bach
Wonder Lake, Illinois

Dear Sir: The answer to the sock mystery is, in fact, very simple. The old frontier pastime of darning is clinically dead in suburbia. It's easier to slip, furtively, a worn sock into the wastebasket than to mend it. I owe this information to my wife who, fortunately for science, talks in her sleep.

Robert T. Dodd
Port Jefferson, New York

Dear Sir: Socks are troublemakers, all right, and test human resourcefulness to the limit. But Mr. Middleton need no longer be punished by socks that sulk and spitefully sag slowly down around his ankles. Now, the elastic in American socks is at top, around the calf, from whence the sock naturally seeks a lower, slimmer level. But in Australia a "socompugen" (sock computer genius) performed sock-and-leg computations and discovered that if one puts the elastic at and just above the ankle the sock top is forced up as one walks.

These super "computer socks" are available in Australia in wool-polyester blends for about U.S. $5 per pair. Even if you figure about $1,500 for the return flight, the price is not unfair if the cost/benefit analysis is taken over the long term.

Robert James
Rochester, New York

Dear Sir: I never throw away my divorced socks. They come in handy as containers for things I don't want rattling around in my suitcase. Don't try fooling Customs officials by concealing undeclared items in stray socks, however. They have the same problem at home and know all about the uses to which single socks are put.

George A. Hoyem
Tacoma

Phenomena

Dear Sir: Please tell Mr. Wiley that as a two months' owner of a $14 bird feeder, I am qualified to offer bird advice. When first set up—in the front yard so the neighbors could see and appreciate how much I love our feathered friends—all that came were sparrows and giant blackbirds.

Moved feeder to within three feet of a window that always has someone staring out, and the trash birds left. Sparrows and blackbirds cannot stand scouting.

Come now three kinds of finches and the mighty evening grosbeak—by the gross. They don't like milo, much prefer sunflower seeds, which make a bigger mess.

Mote Brickley
Miles City, Montana

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341107. Brahms: Double Concerto—Menuhin; Tortelier; Berglund, London Phil. (*Digital*—Angel)

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340588. Brahms: Piano Concerto No. 2—Vladimir Ashkenazy; Haitink, Vienna Phil. (*Digital*—London)

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341214. Haydn: Symphony No. 100 (Military), **No. 104** (London)—Hogwood and Acad. of Ancient Music (*Digital*—L'Oiseau-Lyre)

332569. Haydn: Symphony No. 94 (Surprise), **No. 100** (Military)—Solti, London Phil. (*Digital*—London)

MAHLER

334508. Mahler: Symphony No. 1 (Titan)—Muti cond. Philadelphia Orch. (*Digital*—Angel)

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317685. Mahler: Symphony No. 4—Ameling (soprano); Previn and the Pittsburgh Symphony Orch. (Angel)

325357. Mahler: Das Lied von der Erde—soloists, New York Philharmonic under Bruno Walter (Masterworks Portrait)

MENDELSSOHN

318824. Mendelssohn: Symphony No. 4 (Italian); **Schumann: Symphony No. 4**—Tennstedt, Berlin Phil. (*Digital*—Angel)

330142. Mendelssohn: Violin Concerto; Saint-Saens: Concerto No. 3—Cho-Liang Lin, violinist; Thomas, Philharmonia Orch. (*Digital*—CBS Masterworks)

332056. Mendelssohn: A Midsummer Night's Dream; etc.—Zinman, Rochester Philharmonic (*Digital*—Vox Cum Laude)

MOZART

337782. Mozart: Divertimento, K. 563—Kremer; Kashkashian; Yo-Yo Ma (*Digital*—CBS Masterworks)

294264. Mozart: Piano Concerto No. 21 (Elvira Madigan) and **No. 17**—Ashkenazy plays, conducts Philharmonia Or. (London)

328740. Mozart: Piano Concerto 26 (Coronation); **Rondos**—Murray Perahia, English Chamber Orchestra (*Digital*—CBS Masterworks)

341628-391623. Mozart: Sonatas For Fortepiano & Violin, Vol. 3—Bilson and Luca (Counts as 2—*Digital*—Nonesuch)

339366. Mozart: Eine Kleine Nachtmusik; more. Hogwood, Acad. Ancient Music (*Digital* L'Oiseau-Lyre)

341974. Mozart: Music For Wind Quintet—played by Ensemble Wien-Berlin (*Digital*—CBS Masterworks)

321224. Mozart: Overtures—Don Giovanni, Cosi fan tutte; etc. Marriner, Acad. St. Martin (*Digital*—Angel)

338723. Mozart: Requiem—Hogwood cond. soloists, chorus, Acad. of Ancient Music (*Digital* L'Oiseau-Lyre)

340596. Mozart: Sonata, K. 448; Schubert: Fantasia Radu Lupu, Murray Perahia (*Digital*—CBS Masterworks)

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334540. Rachmaninoff: Piano Concerto No. 2; Rhapsody On A Theme Of Paganini—Cecile Licad; Abbado, Chicago Symph. (*Digital*—CBS Masterworks)

334565. Rachmaninoff: Symphony No. 2 (complete version)—Simon Rattle and Los Angeles Philharmonic (*Digital*—Angel)

SCHUBERT

343707. Schubert: The Impromptus, Op. 90 & 142—Murray Perahia, piano (*Digital*—CBS Masterworks)

325092. Schubert: Sonata in B Flat; etc.—Alicia de Larrocha (*Digital*—London)

339358. Schubert: Trout Quintet—Andras Schiff, piano; Alois Posch; Hagen Quartet (*Digital*—London)

TCHAIKOVSKY

308874. Tchaikovsky: Piano Concerto No. 1—Gavrilov; Kitaenko cond. (Columbia/Melodiya)

329169. Tchaikovsky: Symphony No. 4—Lorin Maazel, Cleveland Orch. (CBS Masterworks)

343350. Tchaikovsky: Symphony No. 5; Voyevode—Abbado, Chicago Sym. (*Digital*—CBS Masterworks)

304352-394353. Tchaikovsky: The Nutcracker—Davis, Toronto Symphony (Counts as 2—Columbia)

342329. Bartok: Miraculous Mandarin (complete ballet) **Music For Strings, Percussion & Celesta**—Dorati, Detroit Sym. (*Digital*—London)

342337. Bartok: Piano Concerto No. 1; Sonata For 2 Pianos & Percussion—Ashkenazy; Solti, London Phil. (*Digital*—London)

343145. Bolling: Original Ragtime—the composer at the piano (CBS)

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338244. Stravinsky: Rite Of Spring; Symphonies Of Wind Instruments—Dutoit, Montreal Symphony Orch. (*Digital*—London)

342154. Tchaikovsky: Romeo & Juliet; Francesca da Rimini—R. Chailly and the Cleveland Orchestra (*Digital*—London)

334680. Tchaikovsky: Suites From "Swan Lake" and "Sleeping Beauty"—Muti and the Philadelphia Orch. (*Digital*—Angel)

336461. Tchaikovsky: Violin Concerto; Serenade—Pinchas Zukerman; Zubin Mehta, Israel Philharmonic (*Digital*—CBS Masterworks)

BAROQUE

323543. Handel: Royal Fireworks Music; Oboe Concertos 1-3—Karl Munchinger, Stuttgart Chamber Orch. (*Digital*—London)

329615. Handel: Water Music. Malgorie, La Grande Ecurie & la Chambre duRoy (*Digital*—CBS Masterworks)

339663. Pachelbel: Kanon—also works by Albinoni, Bach, Boccherini, others. Karl Munchinger and the Stuttgart Chamber Orch. (*Digital*—London)

343715. Vivaldi: Four Seasons—Lorin Maazel conducts soloists from the French National Orchestra (*Digital*—CBS Masterworks)

332544. Vivaldi: 6 Flute Concerti, Op. 10—Rampal; Scimone, I Solisti Veneti (*Digital*—CBS Masterworks)

MODERN

340216. Adams, John: Harmonielehre—Edo de Waart, San Francisco Sym. (*Digital*—Nonesuch)

326439. Copland: Rodeo; Dance Symphony; El Salon Mexico; Fanfare for Common Man—Dorati, Detroit Sym. (*Digital*—London)

240473. Copland: Appalachian Spring (complete)—Copland and London Symphony (Columbia)

326488. Gershwin: Porgy & Bess Suite; Second Rhapsody; Cuban Overture—Previn, London Symph. (*Digital*—Angel)

330886. Grofe: Grand Canyon Suite; Mississippi Suite—Batiz, Royal Philharmonic (*Digital*—Angel)

340182. Glass, Philip: Mishima—original music composed for the film (*Digital*—Nonesuch)

319004. Glass, Philip: The Photographer—"Some of his best music to date"—*Time* (CBS)

326272. Holst: The Planets—Bernstein, New York Phil. (CBS Great Performances)

342022. Ravel: Gaspard de la Nuit; Pavane Pour Une Infante Defunte; others—Vladimir Ashkenazy at the piano (*Digital*—London)

318451. Ravel: Bolero; Pavane; Daphnis Et Chloe (Suite No. 2)—Andre Previn, London Symphony (Angel)

331447. Ravel: Ma Mere L'Oye (Mother Goose); etc.—Dutoit, Montreal Sym. (*Digital*—London)

340190. Reich: The Desert Music—M. Tilson Thomas, members of the Brooklyn Phil. (*Digital*—Nonesuch)

ROMANTICS

335547. Berlioz: Symphonie Fantastique—Barenboim cond. Berlin Philharmonic (*Digital*—CBS Masterworks)

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333518. Bruckner: Symphony No. 7—Chailly, RSO Berlin (*Digital*—London)

339374. Chopin: Piano Concerto No. 2; Schumann: Piano Concerto—Schiff; Dorati, Concertgebouw (*Digital*—London)

329144. Chopin: Waltzes, Mazurkas, Polonaises—Ivan Moravec, piano (*Digital*—Vox Cum Laude)

343152-393157. Chopin: Nocturnes—Abbey Simon at the piano (Counts as 2—Vox Cum Laude)

326454. Dvorak: Cello Concerto; Bruch: Kol Nidrei—Harrell, cello; Ashkenazy cond. (*Digital*—London)

333526-393520. Dvorak: Slavonic Dances; etc. Dorati, Royal Phil. (Counts as 2—*Digital*—London)

325183. Dvorak: Symphony No. 9 (New World)—Solti, Chicago Symph. Orch. (*Digital*—London)

333575. Elgar: Enigma Variations; Pomp And Circumstances Marches—A. Davis, Philharmonia Or. (*Digital*—CBS Masterworks)

336990. Grieg: Peer Gynt (Incidental Music)—Lucia Popp; Marriner, Academy St. Martin (*Digital*—Angel)

340257. Liszt: Piano Concertos Nos. 1 & 2—Bolet; Zinman, Rochester Phil. (Vox Cum Laude)

321190. Liszt: Hungarian Rhapsodies 1 & 4; more Boskovsky, Philharmonia Hungarica (Angel)

332114. Mussorgsky: Pictures At An Exhibition; etc. Ashkenazy conducts his orchestration of "Pictures" *(Digital*—London)

338228. Offenbach: Gaite Parisienne; Gounod: "Faust" Ballet Music—Dutoit, Orch. symphonique Montreal *(Digital*—London)

334771. Sibelius: Symphonies No. 4 and **7**—Berglund, Helsinki Philharmonic Or. *(Digital*—Angel)

225888. Smetana: Moldau, Bartered Bride Overture, Dances; etc. Bernstein, N.Y. Phil. (Columbia)

310870-390872. Johann Strauss' Greatest Waltzes—*Blue Danube,* others. Ormandy, Szell, Bernstein (Counts as 2—Columbia)

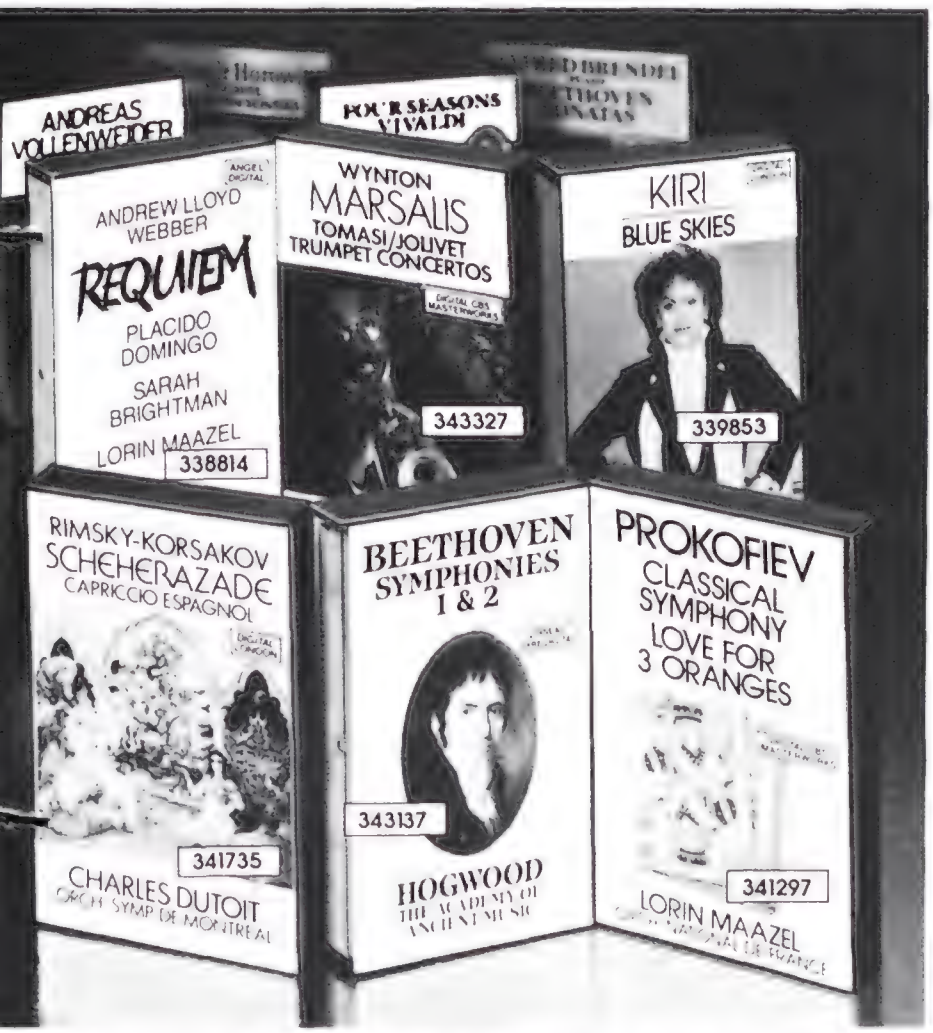
341610. Strauss, Richard: Der Rosenkavalier Suite; Die Frau Ohne Schatten—Dorati, Detroit Symphony Orch. *(Digital*—London)

325886. Liona Boyd—Live In Tokyo. Works by Dowland, Soler, Falla, etc. *(Digital*—CBS Masterworks)

334482. Calliope • Dances—A Renaissance Revel. 16th & 17th century music by Praetorius, Henry VIII, etc. *(Digital*—Nonesuch)

336149. Canadian Brass—Live! Works by Tchaikovsky, Mozart, Pachelbel, others *(Digital*—CBS Masterworks)

334276. Canadian Brass & Berlin Phil. Brass—Brass In Berlin. Bach, Pachelbel, Gabrieli, etc. *(Digital*—CBS Masterworks)



342428. Rossini: Overtures—*Semiramide, Barber of Seville,* others. Riccardo Chailly and National Philharmonic (*Digital*—London)

331082. Saint-Saens: Symphony No. 3 (Organ)—Hurford; Dutoit, Montreal Sym. (*Digital*—London)

325100. Saint-Saens: Carnival of the Animals; etc.—Philip Jones Brass Ensemble (*Digital*—London)

323147. Wagner: Orchestral Music from "The Ring"—Sir Georg Solti, Chicago Sym. (*Digital*—London)

310086. Wagner: Overtures—*Flying Dutchman, Rienzi,* etc. Maazel, Philharmonia Orch. (Columbia)

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328013. Nancy Allen—virtuoso harpist in music by Ravel and Debussy (*Digital*—Angel)

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343624. Wynton Marsalis Plays Trumpet Concertos. Haydn, Hummel, L. Mozart. (*Digital*—CBS Masterworks)

329607. Wynton Marsalis—Purcell, Handel, Torelli, etc. (*Digital*—CBS Masterworks)

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326611. Christopher Parkening—Sacred Music For The Guitar. Mozart, Bach, etc. (*Digital*—Angel)

338178. Christopher Parkening—A Bach Celebration. Arrangements for solo guitar and chamber orchestra (*Digital*—Angel)

343186. Anthony & Joseph Paratore—Opera Festival For Four Hands. Music by Rossini, Suppe, Mozart, etc. (CBS Masterworks)

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335695. Fascinatin' Rampal—Jean-Pierre Rampal Plays Gershwin. (CBS)

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333112. Andreas Vollenweider—White Winds. The inventive harpist's latest (*Digital*—CBS)

343673. Andre Watts—Live In Tokyo. Music by Brahms, Haydn, Ravel, etc. (*Digital*—CBS Masterworks)

334763. John Williams—Bach, Handel, Marcello Concertos *arr. for guitar* (*Digital*—CBS Masterworks)

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331942. The Academy—By Request. Marriner and Academy of St. Martin. Bach, etc. (*Digital*—Angel)

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Around the Mall and beyond

Ever on the alert for elusive anniversaries, I responded like a rabbit-sniffing beagle to the news that this month contains a splendidly arcane sesquicentennial. By the act of July 1, 1836, Congress accepted for the United States the James Smithson bequest that is responsible for establishing this Institution. The act authorized the President to appoint an agent who would claim and collect the legacy. That sounds simple enough, but anything that involves American politicians and British jurists is, as Damon Runyon would say, six to five against.

With the help of two friends—Peter Powers, Smithsonian General Counsel, and Wilcomb Washburn, Director of the Office of American Studies—I burrowed into some fragile papers and crumbling volumes and found that the enactment of 150 years ago marked the beginning of almost two years of negotiations in London.

A picture emerged of fusty barristers clopping along mist-wreathed streets to offices where clerks perched at high desks. And to penetrate the London fog—official as well as meteorological—comes a hero, an innocent American agent who wins through in the end.

Actually, the agent whom the United States chose to press its claim was no gullible innocent, but the eminent lawyer Richard Rush of Philadelphia, son of the famous Dr. Benjamin Rush, a signer of the Declaration of Independence. In 1817, President James Monroe appointed Richard Acting Secretary of State and then Minister to England. President John Quincy Adams, whose efforts would be critical in getting the act of July 1, 1836, passed, named him Secretary of the Treasury, and chose him as running mate in the 1828 Presidential campaign, which they lost to Andrew Jackson. Exactly 150 years ago, President Jackson and Secretary of State John Forsyth, cognizant of Rush's reputation for diplomacy, sent him back to England on the first available packet to secure the Smithson money. "The compensation to be allowed you . . . will be at the rate of $3,000 per annum for your personal services and at the rate of $2,000 for all contingencies except the law expenses. . . ." Not half bad in 1836.

Reading all this, I began to sense a Dickensian plot: a kindly lawyer is sent to the great city to unravel a mysterious bequest, official notification of which had come from certain Messrs. Clarke, Fynmore & Fladgate, Solicitors, Craven Street, London. Before leaving the United States, he is required to pledge a $500,000 bond to insure the proper performance of his duties and the delivery of said bequest to the U.S. Treasury. His own needs are comfortably fulfilled, and Rothschild's bank stands ready to honor his letter of credit. But will a counterclaim suddenly appear? Will the creaking process of British justice drive our hero to desperate measures?

Well, almost. The Smithson bequest was in the hands of Britain's Court of Chancery. It sat for specified periods of the year:

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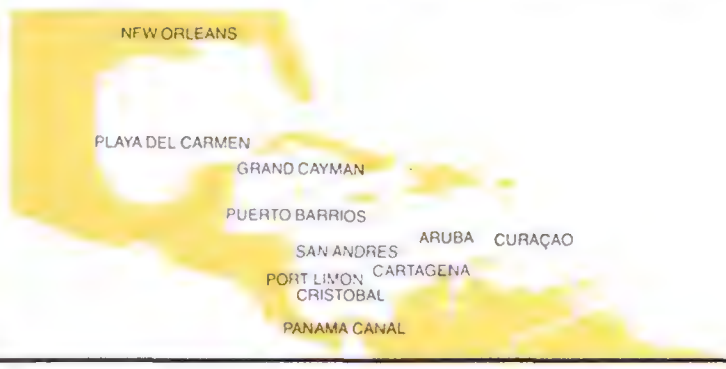

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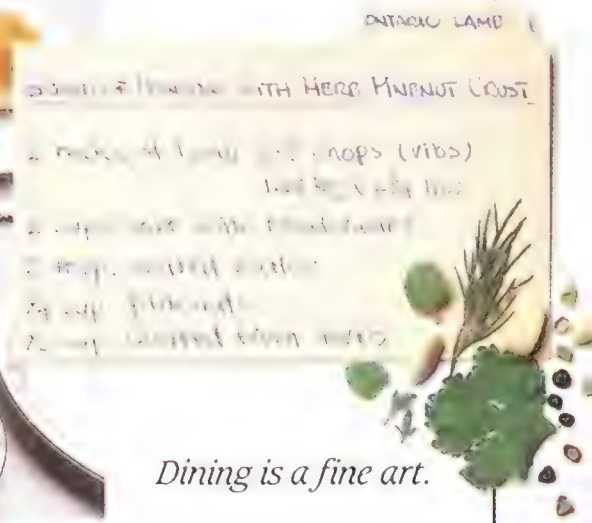

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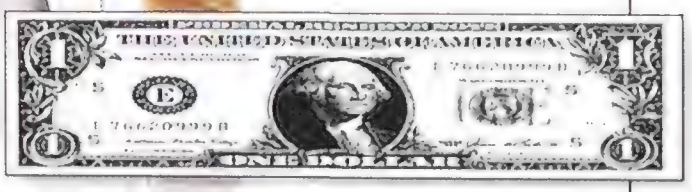

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Michaelmas Term, Hilary Term, Easter Term and Trinity Term. To Rush's despair, it took frequent and sometimes extended vacations. A quick settlement was unlikely. Reaching London in September, he wrote Mr. Forsyth, "This is a season of the year when professional and official business of every kind is much at a pause . . . and those who conduct it dispersed." He even had difficulty setting up a meeting with the aforesaid Messrs. Clarke et al., and the court would not reconvene until November.

Frustrated, he tried to push the claim of the United States without filing a suit. His British lawyers tut-tutted: Rush would have to bring suit—the very first the United States had ever filed in a British court—and, moreover, it should be filed in the name of President Jackson. Rush wasn't sure that the U.S. Constitution allowed such a thing, so he had to work all that out and the year ended without the claim having even been heard in Chancery.

Meanwhile, in Dickens' best tradition, enter another claimant to the Smithson fortune. James Smithson had left his estate to his nephew, Henry James Hungerford, and if Mr. Hungerford died without issue, then the money would go to the United States "to found at Washington, under the name of the Smithsonian Institution, an Establishment for the increase & diffusion of knowledge among men."

Hungerford died at about age 29 without marrying and without children. But on December 19, 1836, Rush had received a copy of a letter from the U. S. Consul in Paris enclosing a bill from a French attorney "for services rendered in relation to the effects of Mr. Henry James Dickinson, deceased, alias de la Batut, alias Hungerford . . . ." The many-named nephew, Rush learned, "was the natural son of Henry Louis Dickinson, deceased, brother of Mr. Smithson, by a Mrs. Coates." She had later married a Frenchman, M. de la Batut, and was still living.

Did she have any claim, because of her son, on the Smithson estate? Dickens wasn't there to solve this problem, and neither were Gilbert and Sullivan on hand to make something of the sundry emerging identities. It was up to Richard Rush and his attorneys to do their best.

It was necessary for them to run advertisements in papers such as the *London Gazette* for the purpose of obtaining information about the deaths of Henry James Hungerford and one John Fitall (former servant to Smithson, who had been granted, under the terms of the will, an annuity of £100 per annum for life) and locating any legitimate claimants. Rush worried about the possibility of spurious claims and the time and money consumed by this endeavor.

On August 1, 1837, 13 months after Congress had authorized the claim, it was still not settled, and Rush wrote Forsyth that he didn't know when it would be. "Should it last even through the winter . . . the fund created by the act of Congress of the 1st of July, 1836, will . . . be exhausted."

So was I by the time I had dug this far. It's enough to say that the Court of Chancery went off on its annual autumn vacation, that Richard Rush got a little more money out of Congress—about enough to pay for a few lunches, these days—that Madame de la Batut's claim was settled for a small annuity, and that on May 9, 1838, the court heard the case for the last time and, wrote Rush, "a decree was solemnly pronounced adjudging the Smithsonian bequest to the United States."

The ordeal of Richard Rush was finally over, and by some brilliant selling of various Smithson securities, he managed to parlay the original £92,636 bequest into the almost £105,000 ($508,318.46, to be exact) that he triumphantly brought back in bags of English gold sovereigns to the States on the packet *Mediator*. Oliver Twist never showed up.

Rush, understandably, maintained a lifetime interest in the Institution he had worked so hard to help get off the ground. He was one of the original Regents, serving until his death. That occurred two years before the outbreak of the Civil War, which Rush had come to foresee and fear. Ever a staunch Unionist, he despised the abolitionists for being divisive, and voted for President Buchanan against the new Republican party that Abraham Lincoln would espouse in 1860.

Richard Rush read correctly the nation's drift toward the blood bath of 1861-65. But I doubt that he could have foretold the future of his favorite Institution. What would he have thought, for example, of the round-walled Hirshhorn Museum and its collection? It boggles the mind.

George and Mona in the Baths of Coloma, 1976, by Robert Arneson

Rush had a second cousin, William Rush, whose mother, incidentally, was a relative of the aforesaid Abraham Lincoln. William was a woodworker who made a name carving ships' figureheads, and moved on to become a noted sculptor. Still working in wood, he did classical representations of heroic subjects—for example, a life-size statue of George Washington. It's a far cry from the work of Robert Arneson (his version of George appears above), which the Hirshhorn is currently displaying and which I dropped in to look at—as you can until the sixth of this month.

Starting as a self-taught teenage cartoonist, Arneson began throwing clay as a craftsman. He paints his ceramic sculptures brilliantly (often with a lot of blood red) and so increases their impact. Where Rush used his medium to express the young nation's heroic idealism, Arneson, a good old-fashioned California rebel, uses his to deal directly with just about every hang-up, every anger, frustration and mockery that he sees modern Americans falling heir to.

The Arneson exhibit stuns, shocks, amuses, outrages and overwhelms you with its power. It's something you may not like or dislike. I just said "Wow!" and walked away, moved and disturbed, eyes as glazed as the wildly excessive images.

And that effect is knowledge increased. It remains as much the task of the Smithsonian as it did a century and a half ago when, in an age which still recognized an ideal when it saw one, Congress gave its official nod to this establishment.

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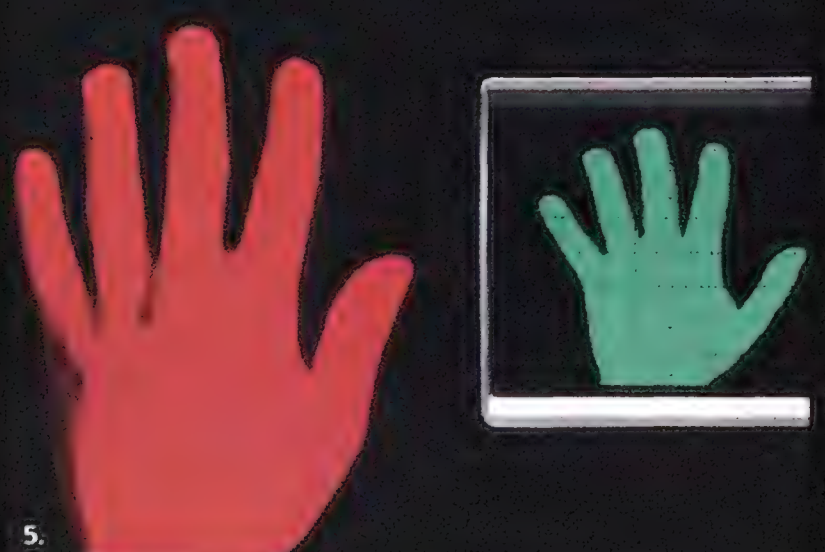

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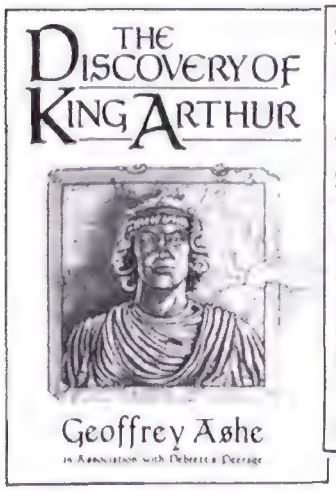

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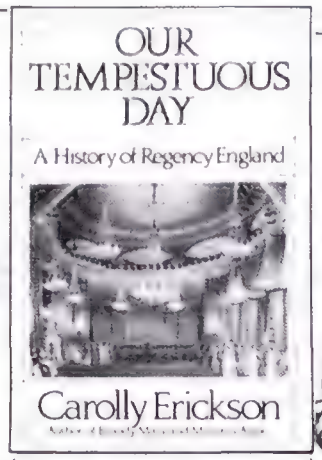

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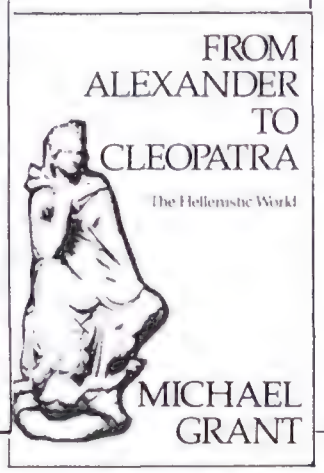

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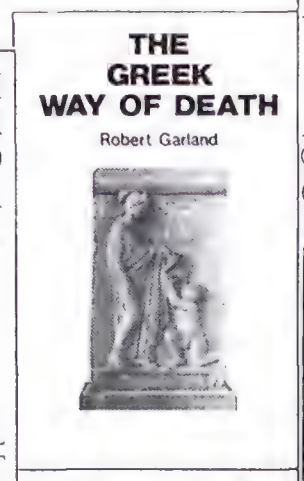

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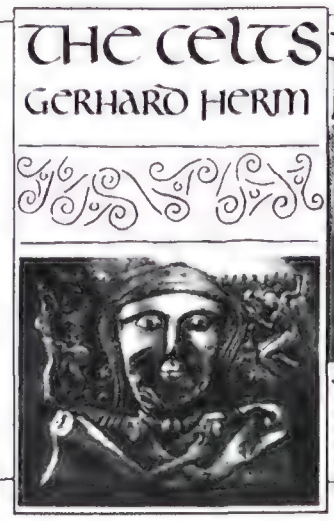

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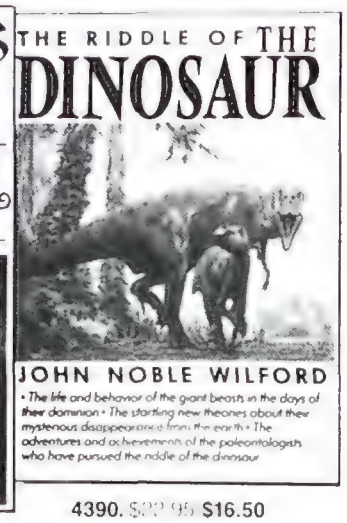

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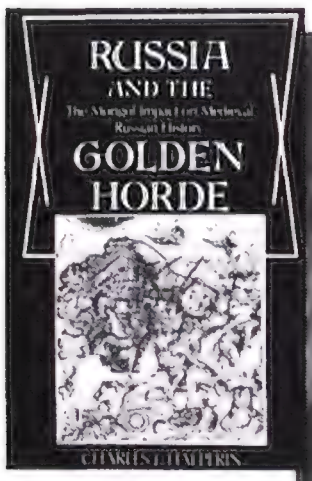

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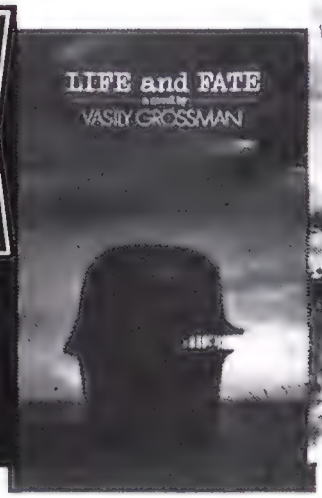

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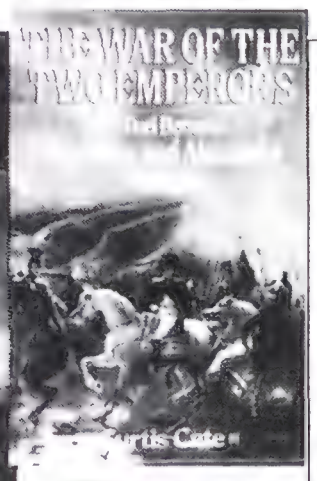

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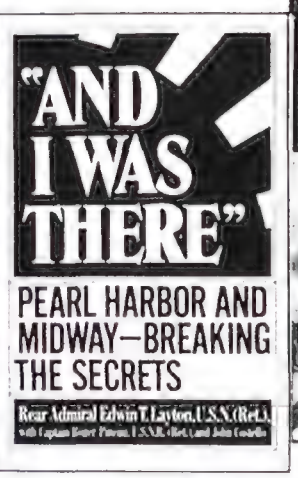

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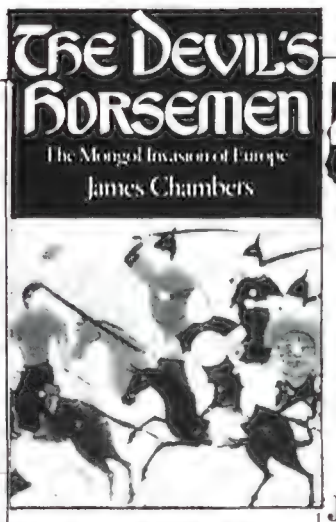

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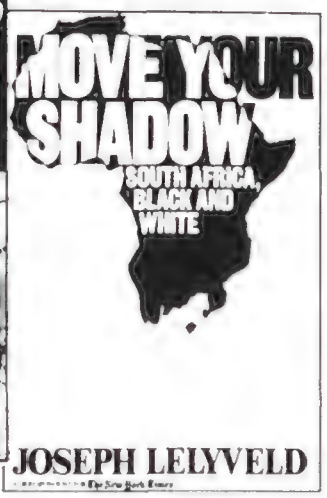

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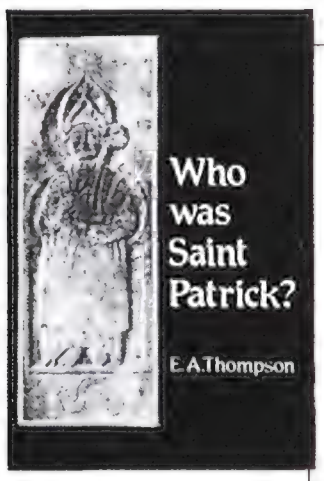

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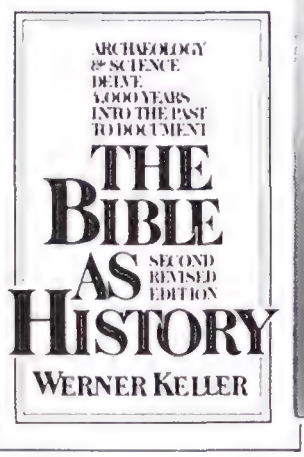
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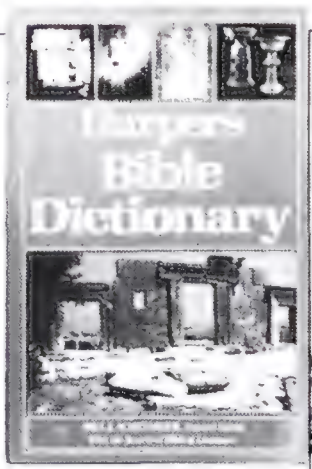

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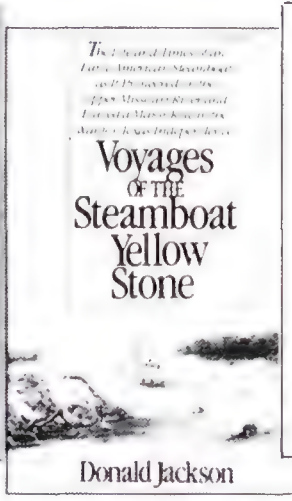

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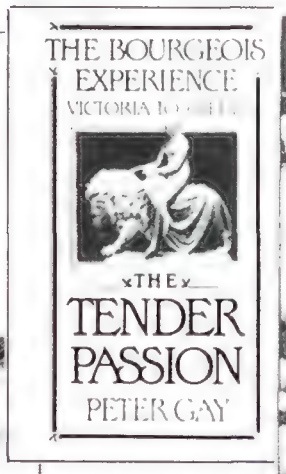

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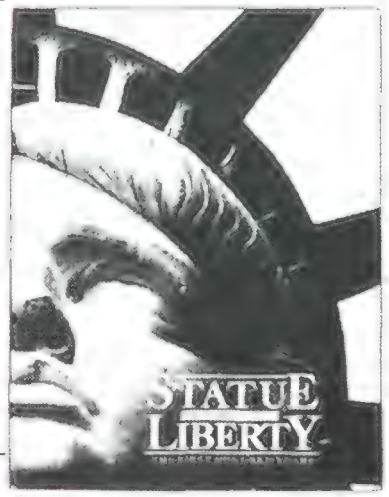

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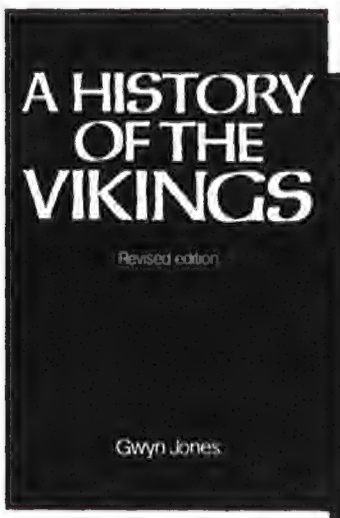

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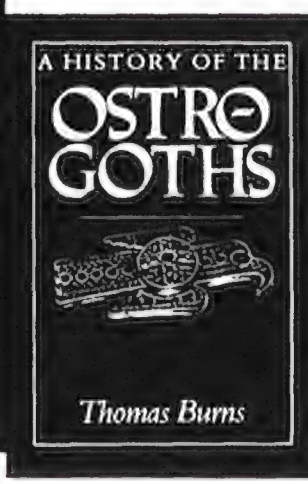

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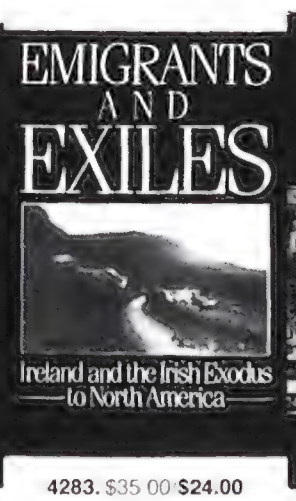

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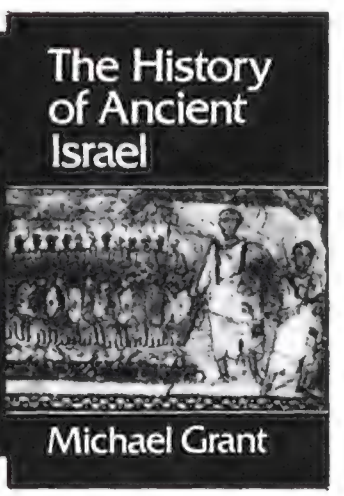

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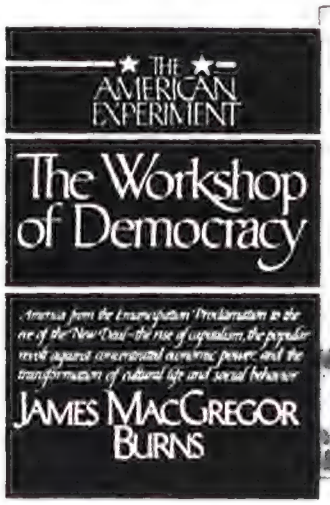

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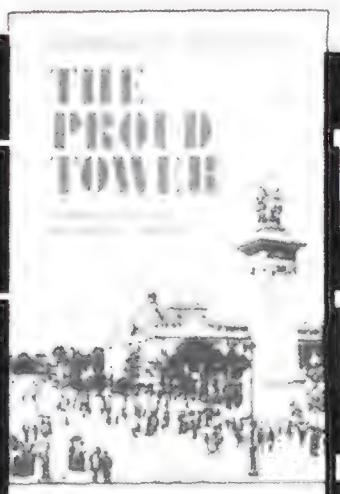

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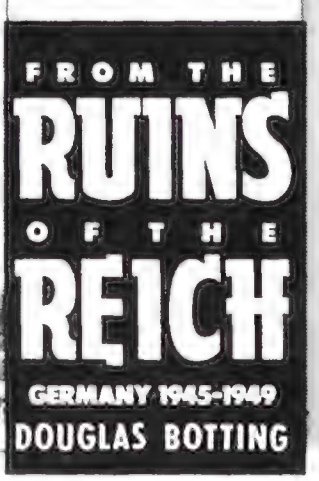

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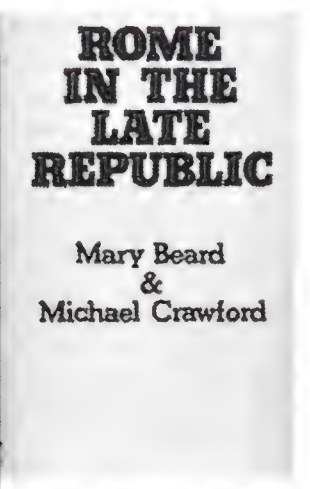

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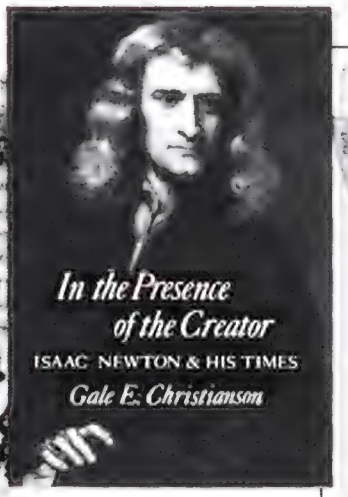

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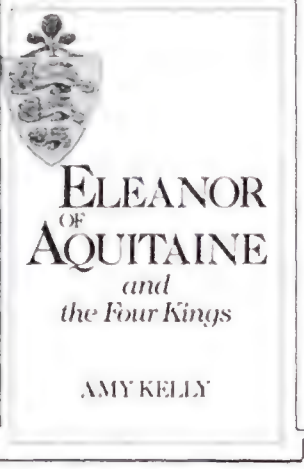

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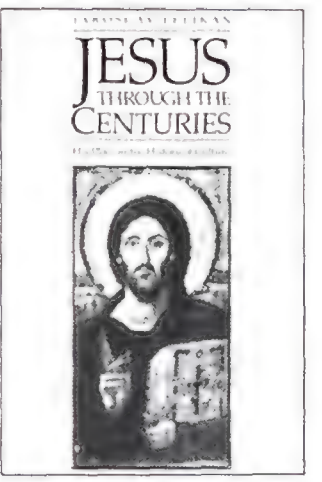

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Phenomena, comment and notes

An unusual international revolution is going on deep inside the jungles of Costa Rica—and biologists are leading it

The camp appeared deserted. Tents were scattered about a clearing, and hammocks bridged the few trees that stood separate from the dense jungle beyond. Someone had constructed a crude shelter by draping clear plastic over wooden supports. Nearby stood a hovel: a few weathered boards topped with rusty, corrugated tin.

As we approached the shack, a man in fatigues—machete at his side and rifle in hand—stepped out. Greeting us in Spanish, he said that he and a few others were heading for a camp higher up the slope. A friend had warned me that "Central American countries are always in revolution," and here I was in the middle of one, deep within its most recent strategic advance: La Zona Protectora.

This revolution and La Zona have nothing to do with war, however. Instead they are part of an international effort in research and conservation of the world's declining tropical resources.

In the past 17 years Costa Rica—a country smaller than West Virginia—has incorporated almost ten percent of its land into a model system of national parks. La Zona is the most recent addition. "The Protection Zone" is a relatively short strip of land, about 11 miles long and no more than four at its widest, in Heredia Province near the country's northeastern corner.

But La Zona is an important bridge between two other parcels of land. On its northern end lies La Selva Biological Station, a tropical biologist's dream run by the Organization for Tropical Studies. OTS is a consortium of 37 Costa Rican and U.S. academic institutions, including the Smithsonian, that helps train most North American tropical biologists. South of the Zone, starting at an elevation of about 3,000 feet, lies a forest reserve and Braulio Carrillo National Park. Both La Zona and the reserve were annexed to Braulio in April.

The park peaks at Volcán Barva, a dormant crater. Although the distance as the parrot flies along the corridor between La Selva and Barva is only about 21 miles, the land rises from near sea level to almost 10,000 feet. This elevational transect, as ecologists call it, passes through four different types of forest and is almost a complete cross section of the Caribbean slope of the mountains that run the length of Central America. The wildlife of the hot, tropical wet forest at La Selva gradually changes to that of the cool, but still tropical, "cloud forest" on the summit.

I backpacked into La Zona with Chuck Schnell, OTS resident director, and Arturo Jarquín, a Costa Rican horticulturist and friend. Like many Americans I met there, Chuck came to Costa Rica several years ago—and stayed. We tagged along with him to check on the progress of an OTS-National Geographic Society expedition surveying life in the transect. Our destination was one of four camps used by the team of biologists.

As we traveled, Chuck explained why La Zona is so important. It is thought to be the last continuous transect of the Caribbean slope that contains primary forest all the way up. Many birds (and probably mammals as well) that migrate locally must have access to all parts of the slope. In the temperate zone, we are accustomed to birds that migrate with the seasons, from south to north and back again. But in the tropics, Chuck said, many fruit- and nectar-eating species go up and down the slope during the year, always moving to elevations where food is available.

Most of the Caribbean slope throughout Central America has been stripped of primary forest, either for the lumber or for farming. The cleared areas form a barrier for certain birds, including some of the rarer ones, that live in the dense primary forest and will not cross large open spaces. If they cannot reach their seasonal food sources, they could die out.

La Zona has not been immune to deforestation. On the trail to the expedition camp at 2,300 feet, we passed through several clearings umbrellaed only by trees that had once been emergents—the giants that poke out of the surrounding canopy—until the jungle was razed. Chuck said their size had saved them: they were too big to drag through the gorge we had just climbed out of. These survivors will speed up regeneration of the primary forest around them. "This may be the last chance you'll have to see what La Zona looks like," Chuck told me. The plants that are already taking over the open areas to form secondary forest will grow so rapidly that within a few years the high, dense vegetation will restrict the view through the trees.

Tent-making bats roost under banana-leaf canopy at La Selva Biological Station.

One of the first people I met in camp was Don Wilson, chief of the U.S. Fish and Wildlife Service Biological Survey, housed in Smithsonian's Museum of Natural History. In Costa Rica he headed up the expedition's mammal-survey team. It was members of his group, setting off for the base camp at 3,300 feet, whom we had met coming out of the shack that served as mess hall, research lab and social club. Don said the Costa Rican park guide who went with them toted a gun to ward off poachers and a machete for clearing paths.

Wilson is a bat specialist and is especially interested in finding out what species inhabit the corridor. He set up mist nets over streams, left them in place for a few days, then moved them to sites higher up the slope. During the month-long expedition he captured nearly 40 species and thinks there are more. At La Selva, bat biologists have identified nearly 65 species in all major groups: fruit eaters, nectar drinkers, insectivores, carnivores and even vampires. But, says Wilson, it took years of collecting to reach that number.

Once the corridor's bats are identified, zoologists can go to work on their life histories, behavior and ecology. It is possible,

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Don said, that some fruit- and nectar-eating bats, like birds, migrate seasonally along the transect. First, researchers have to find out what bats occur where; the corridor will enable them to do this.

Bats are just one example of what is possible here. The research potential in this patch of land becomes incomprehensible when I consider the number of organisms that creep, crawl, run, fly or grow in the La Selva-Braulio strip. In 1983 OTS sponsored a two-week reconnaissance expedition in La Zona to get some idea of what is there. Estimates from this and other studies suggest that there are probably more than 520 species of birds—almost 80 percent of Costa Rica's land-bird species. The transect has more species of trees—perhaps as many as 800—than all of North America above Mexico. It also provides critical habitat for numerous plants and animals. That 1983 team discovered 28 new plant species and another 12 never before seen in Costa Rica. The latest expedition will provide an even better idea of the diverse life there.

The members themselves were a diverse crew. In addition to the mammal folks, there were herpetologists, entomologists, botanists, ecologists, ornithologists, a hydrologist and a couple of photographers. By day they were difficult to pin down but as dusk, accompanied by a light rain, overtook the camp, they filtered back from the field. Under the white glow of propane lanterns, dingy "Club La Zona" became the camp's social hub. Scientists, park guides and cooks sat talking, playing hearts or going over notes from the day's work. One of them was Cathy Pringle, a post-doctoral aquatic biologist from the University of California, Berkeley. She had organized the 1983 expedition. On this year's trip she was sampling meadow and forest streams along the transect, comparing trace metals, nutrient levels and invertebrates.

As we sat picking spineless creatures out of bowls of stream water, carefully placing them into vials of alcohol for future identification, she told me about the international effort to protect La Zona. In 1977 Thomas S. Ray jr., a Harvard graduate student working at La Selva, grew concerned that the research station was becoming "an island of forest in a sea of cow pasture," she said. Deforestation on three sides was already extensive, but the jungle on the south boundary was relatively untouched. Ray approached Thomas E. Lovejoy of the World Wildlife Fund-US (WWF) and they worked out a plan for a park that would protect La Selva and its major watersheds. At the same time Costa Rica's National Park Service, under director Alvaro Ugalde (SMITHSONIAN, September 1979), created Braulio Carrillo National Park.

We paused for a minute to change canisters on the lantern, then Cathy continued. In 1982, after more than four years of lobbying by Costa Rican and foreign conservationists and scientists, the government designated this privately owned land "La Zona Protectora La Selva." The 1983 expedition provided further evidence of its biological diversity and the need to save it.

Costa Rica was having economic problems, however, and could not spare the $2 million needed to buy the transect from private landowners. Enter Murray Gell-Mann, Nobel laureate, Smithsonian Regent, chairman of the MacArthur Foundation's Committee on World Environment and Resources, and an avid naturalist. After learning of the financial quandry on a birding trip to La Selva in 1984, he invited the Nature Conservancy's International Program to submit a proposal to the Founda-

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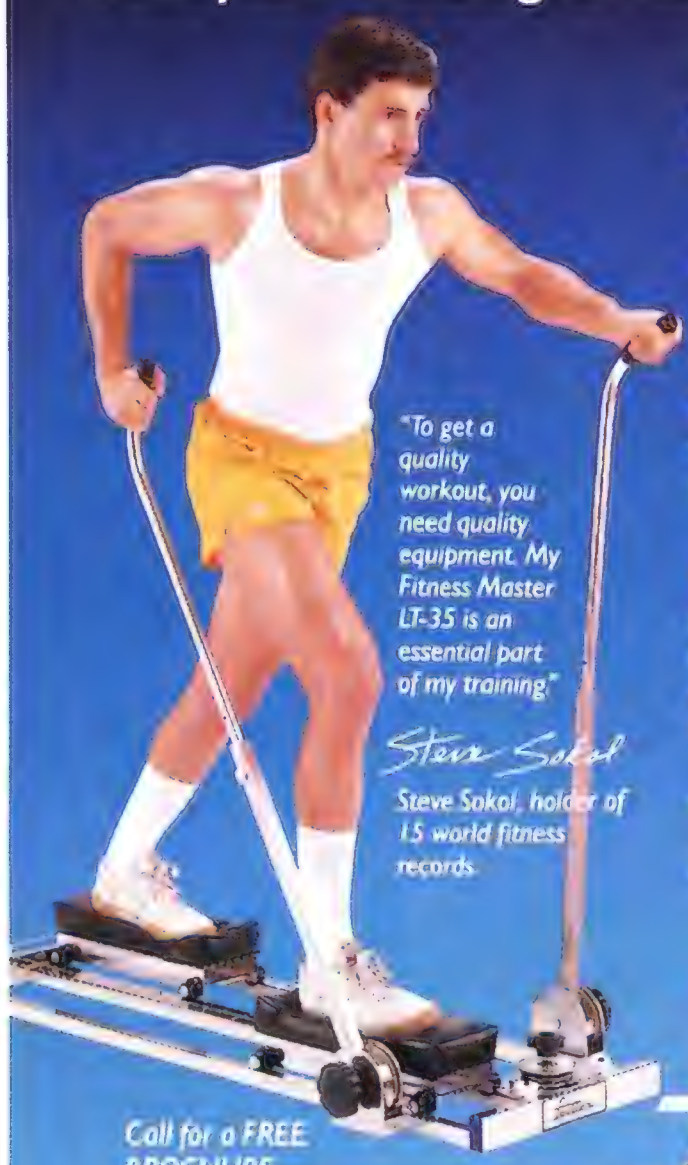

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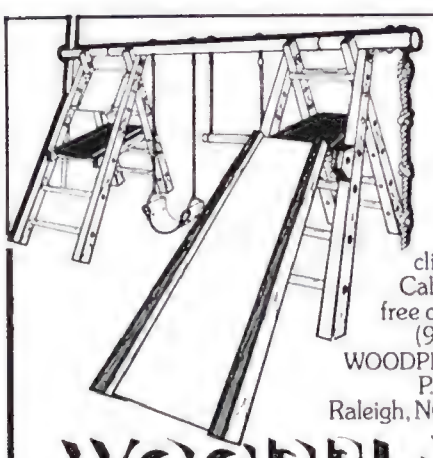

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tion. A $1 million matching grant was awarded later that year. The Nature Conservancy, OTS, Costa Rica's National Park Service and its National Parks Foundation, and WWF raised the other million dollars by the end of 1985. Cathy finished the story by telling me the park annex would be dedicated in a few days.

The next morning I was awakened before sunrise by the low, rushing roar of howler monkeys somewhere deep in the woods. After we watched Don Wilson collect the night's haul of bats, Arturo and I wandered up the trail into the forest to experience the diversity up close.

My biggest problem in the jungle is deciding where to look. With so much going on from canopy to ground, I have a constant fear of missing something—and the knowledge that, at best, my untrained eye will catch only a fraction of the infinite subtleties. Then again, the obvious is exciting enough: the tinny, minimalist music of the three-wattled bellbird, the ranting retreat of white-faced capuchin monkeys, the shocking colors of unknown flowers.

On the trail we were overtaken by botanist Michael Grayum from the Missouri Botanical Garden in St. Louis. In the field he gets little sleep, collecting specimens by day and pressing them by night in the makeshift plastic lab. For the past three days he had been trying to reach the base at 3,300 feet, but picked up so many new plants along the way that he had to take them back to the lower site for preparation.

Arturo and I never made it to 3,300 feet, either; we had to return to camp—and civilization. On the way back we met Cathy and some other team members packing up the trail. I was envious. They would be in the park complex for another couple of weeks and would see the transect from bottom to top. My brief visit to La Selva, La Zona and Braulio was just a teaser.

I left Costa Rica as the park annex was being dedicated. Eventually the trail down the transect will be open to the public, so that anyone with the time and gumption will be able to pack its entire length and experience the primary tropical forest firsthand. From Costa Rica's parks we can learn the importance of preserving tropical forests and their diverse wildlife. But first and foremost they are research labs for the future—areas for discovering the intricacies of ecology, useful resources and ways to manage tropical habitats. It is appropriate that biologists have the first crack at all that La Zona offers. They, after all, are leaders in this revolution.

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Fully clad in copper from the actual Statue of Liberty

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Handcrafted with precision in American pewter

Each sculpture is meticulously crafted from rich American pewter, unsurpassed in its dignity. No other metal could have imparted to this sculpture the same noble bearing and stateliness.

Your purchase contributes to the Statue of Liberty's restoration

You'll be pleased to know that a percentage of the sculpture's purchase price will be contributed to the Statue of Liberty — Ellis Island Foundation, Inc. Consequently, your purchase contributes to the Statue of Liberty's restoration. Accompanying your sculpture will be a Certificate of Authentic Materials, signed by Lee A. Iacocca, the Foundation's chairman.

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Please accept my reservation for *The Statue of Liberty Pewter Sculpture*, a pewter sculpture of the Statue of Liberty, clad in copper from the actual Statue. The sculpture comes with a hardwood pedestal at no extra charge.

I need send no money now. I will pay for the sculpture in four convenient monthly installments of $37.50 each, the first being billed before shipment of my sculpture. If I am not satisfied, I may return my sculpture within thirty days for a replacement or refund.

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City/State _____ Zip _____

☐ Check here if you want each installment charged to your:
☐ VISA ☐ MasterCard

_____
Credit Card No Expiration Date

Signature _____

By James R. Chiles

Anything can be counterfeited– and these days almost everything is

Fakes not only hurt business, they kill people. We're fighting back with Customs inspectors, high-tech wiles and old-fashioned private eyes

Cartier had César, who used to compress cars, create a sculpture by crushing counterfeit Cartier watches.

In December 1984, shortly before Christmas, inspector Karen Johnson of the U.S. Customs Service was looking through the boxes of Asian-manufactured toys at an importer's business in the Los Angeles area. She pulled out a doll. "It had a cute body," she recalls, one very similar to those on the popular Cabbage Patch models. "But the head was a sock. Somebody had taken a black marker pen and drawn a mouth, nose and eyes." She remembers it as one of the ugliest dolls she'd ever seen. There were thousands of others like it, in hundreds of boxes. She asked the importer whether he planned to sell anything so crude.

He said yes, but he didn't add that he was planning to decapitate the dolls and add fake Cabbage Patch heads later. The heads would arrive via the mails, or concealed in legitimate shipments or even stuffed into cheap puppets. What Johnson saw was a small part of a very big business. From that December through the following July, with the help of the copyright owner, informants and other federal agencies, Customs seized 263,000 counterfeit Cabbage Patch dolls in Southern California alone.

Counterfeit. To most of us the word means a basement press churning out crisp sheets of Benjamin Franklin bills. But in this country bogus currency ($90 million seized or passed in 1984) is peanuts compared to what counterfeit goods bring (1984 figures range from $15 to $18 billion). The International Anticounterfeiting Coalition estimates that the makers of bogus products sold $60 billion worth worldwide that year. The drugs and shampoo in your bathroom, the brake linings in your car, the bolts on your airliner, the liquor in the cabinet, sunglasses, basketballs, fire doors, shoes, mannequins, credit cards or cashmere for coats: none have been immune from illegal copying. In 1979, fake fungicide allowed a coffee-tree disease to run wild in the plantations of Kenya. Last year, fake Ovulen-21 birth-control pills brought no telling how many unplanned babies. It would probably take less time to list what products haven't been counterfeited than to list what have.

Counterfeiters exploit the latest technological leaps to make their fakes cheaper and more believable. They use computerized tools that measure and duplicate

Atop a sea of counterfeit jeans, a clerk in the Manila office of Levi Strauss takes notes for court.

Photographs by Michael Freeman

Tony Gurka, Hong Kong investigator for legitimate manufacturers, keeps rogues' gallery of fake products.

metal parts quickly, cheap quartz watch movements that take the place of complicated Swiss mechanical works in fake luxury timepieces, and computers that copy a $600 program onto a blank floppy disk in a few minutes. To back up fake sheepskins from the University of Southern California, counterfeiters have planted false transcripts in the university's computer.

Three lines of defense protect this country: U.S. Customs, the legal system and new technologies that can help separate genuine from junk. A new trademark law promises to hit counterfeiters with sudden raids, jail sentences and heavy fines. But another law is not enough: it's so difficult and expensive to enforce trademark and copyright laws against counterfeiters that the legal system has come to depend on assistance from the trademark owners and their hired help. In the past few years, courts have appointed lawyers as temporary U.S. Marshals and temporary government prosecutors. Accompanied by the police, private detectives and lawyers make unannounced raids on counterfeit operations. (I went along on three such raids in California.) Some companies' security directors have been forced to become expert at making citizens' arrests at flea markets.

"American industry has had its lunch ruined once too often by counterfeiters," says Donald Swan, chairman of the International Anticounterfeiting Coalition. Obviously the trademark owners lose potential sales. Worse, their reputations are damaged when shoddy imitations burn up or fall apart. They may even suffer further losses by lawsuit after the fake injures someone; it's not always possible to prove the difference between real and bogus—particularly if the product is destroyed in an accident. "We've lost [product-liability] cases that I know in my own mind were caused by bogus parts," says a Bell Helicopter official, "but we couldn't prove it." Equally serious is the fact that if the trademark owner lets major violations go by unheeded, after a few years the neglect might cost him all legal rights to his own trademark.

Product counterfeiting is the dark side of an industrial economy. It's been around as long as the brand name. Patent medicines and pocket watches were faked in America during the past century, but it wasn't big business until Prohibition, when organized crime realized the value of somebody else's good name. America's drinkers were desperate and they'd pay extra for something tasty, like a bottle of brand-name Scotch "just off the boat" from Canada or the Bahamas. But many of those liquors were strictly domestic: inside were industrial alcohol, water, fusel oil and flavorings, packaged in a bottle with a counterfeited label.

If the buyer was lucky, the bootlegger's chemist had cleansed the industrial alcohol of the poisons added during manufacture (at the government's order) to discourage its use for beverages. But if the bootleggers had forgotten, he became very ill indeed. Genuine Jamaica ginger was a 160-proof stomach tonic sold in two-ounce bottles and popular among rural drinkers too poor to buy anything else; the counterfeit tonic contained poisoned alcohol. It partially paralyzed the hands and feet of 15,000 drinkers during 1930.

Prohibition ended three years later, but the counterfeiters didn't. By 1934 consumers—and legitimate manufacturers—were suffering from fake aspirin, ginger ale, razors, auto parts and cigars. One bogus deodorant was lethal enough to kill lab rats. In the 1950s fake polio vaccine made the news. In 1964 reports from the Flight Safety Foundation of counterfeit helicopter parts had pilots sweating.

On a street in Bangkok, as in other Asian cities, fakes like these designer handbags are sold openly.

U.S. Customs inspector Josefina Laverty starts to check newly arrived crates in a bonded warehouse.

Copter makers still have a problem, says Jim Gooch, quality-assurance director of Bell Helicopter. The same parts that can kill if they fail are the ones that counterfeiters go after, he says, because these are expensive and have to be replaced regularly. He's seen fake rotor grips, tail-rotor drive shafts, gears and bolts. A counterfeit clutch plate failed when a Bell machine was taking off over a 125-foot cliff; the pilot survived with a broken back.

Gooch opens a drawer and brings out a damaged shaft with gears on the ends. "This is a Model 47 fan drive gear," he says. "It runs off the transmission and drives the fan that cools the engine. The machine won't run very long without it." The steel on this particular counterfeit wasn't sufficiently hardened and the shaft locked up. The fan stopped, the engine overheated and the copter crashed. He approximates the price of a genuine fan-gear set at $3,000. Holding up the fake he says, "If I went to have that part counterfeited, I could sell them all day for $500 and make a good profit—and they'll last a little while."

With modern numerically controlled tools, counterfeiters can easily simulate the shape and size of expensive metal parts. It's what they don't do that counts. They skimp on materials, precision and an intricate series of heat treatments and hardening. Sometimes they hardly bother to do anything other than slap pieces together. In 1984 a Toyota representative in Kuwait found oil filters made out of fruit-juice cans originally discarded in Taiwan.

Ken Myers, auto-parts marketing manager for Ford Motor, says that the counterfeiting problem got much worse about six years ago. He blames the worldwide recession and the expanding technology of the Third World for the jump.

In 1984 a U.S. House subcommittee named the worst offenders: Taiwan, South Korea, Hong Kong, Singapore, Thailand, the Philippines, Indonesia, Brazil, Colombia , Mexico and Nigeria. Counterfeiters in the People's Republic of China (mostly in Kwangtung Province) produce garments and textiles for companies in Hong Kong. Singapore leads in tape and record piracy and helped account for the fact that half of the world's prerecorded tapes sold in 1984 were bogus. Copies of $600 computer programs sell for about $30 in Singapore's People's Park Complex. Bogus Vicks Formula 44 cough medicine comes from deep within the jungles of Indonesia. On the northwest frontier of Pakistan, just across the Khyber Pass from Afghanistan, craftsmen counterfeit Lee-Enfield rifles and Kalashnikov automatics from scrap steel. In Venezuela, owners of internationally famous trademarks have to buy back their own marks from pirates who beat them to the government's trademark registration office. Book pirates in the Far East copy textbooks, reference works and best-sellers. They can produce a book and put it on the stands in less than a week.

Manufacturers pay Tony Gurka (opposite) and his agents to keep an eye on the Far East, where factories can have two faces: legitimate by day and producing fakes at night behind blackout curtains. Gurka heads up Commercial Trademark Services of Hong Kong and keeps offices throughout the area. The colony alone has 76 employees—25 of these are investigators who visit an average of five establishments daily. "All of our investigators are local," he says in a confidential tone as we talk in the lobby of a convention hotel in Texas. He has brown hair and often smiles faintly. He wears a leisure suit. "Ninety-six percent are recruited for a particular industry. We don't use ex-policemen.

In London, investigator for an anticounterfeit agency checks rubbish bin outside a suspect factory.

Matching wits with counterfeiters

New York investigator Al Zaretz uses binoculars and telescope (bottom), wide-angle video (left) and a briefcase tape recorder (the locks are microphones).

Why? One, they must have knowledge of the product and the trading business. Policemen don't have this knowledge. And two, they've learned bad habits in the Far East. They're often corrupt."

Fake clothes seized after raids in the Philippines may end up back on the market if the police aren't bribed. At the same convention where I meet Tony Gurka, a trademark lawyer tells of the trial of a shoe counterfeiter in Thailand; following the sentencing, the judge passed a note to the defense attorney asking to buy a dozen pairs for his relatives.

"The international aspects of counterfeiting are more exasperating and frustrating than anything has a right to be," says Don Swan of the International Anti-counterfeiting Coalition. Carratu International, a London detective agency, spent three years and worked nine countries before they broke open a major perfume-counterfeiting ring. Seizures started in Kuwait: the bottles came from Italy and Spain, packaging was done in Mexico and England, and the money came from the United States through the Channel Islands.

"Look at the countries where there's a real counterfeiting problem," says Craig Correll, general counsel of Ocean Pacific Sunwear. "What do they have in common? They're all developing. This is their way to get an industrial economy." He adds that Japanese manufacturers were notorious in the decade after World War II for counterfeiting Western consumer goods. Now they're targets themselves.

Putting pressure on favored nations

The United States does have a lever on some developing countries: over the years, we've granted them liberal quotas and exemptions from duties under a system called the Generalized System of Preferences. Taiwan, South Korea and Hong Kong are among the GSP beneficiaries; they accounted for about $6 billion in imports in 1983. Since the passage of the Trade Act of 1984, the United States can take away those privileges from a country that fails to protect copyrights, trademarks and patents.

The United States is not acting alone. The General Agreement on Tariffs and Trade (GATT), the United Nations agency that promotes world commerce, is considering an anticounterfeiting code, and the international Customs Cooperation Council is encouraging stricter sanctions against bogus products.

Guarding the gates between foreign counterfeits and the lucrative American market are the inspectors and agents of the Customs Service. Inspector Josefina Laverty (p.37), a member of one of the Service's Mobile Enforcement Teams, works Los Angeles harbor out of a ground-floor office a few blocks from the bay. It's easy to recognize the office from the street: it's the one

Bill Ellis watches a Los Angeles warehouse that he suspects is a distribution center for bogus clothes.

Ellis checks on sales of "Maui Vice" shirts so client can decide if they infringe on *Miami Vice* sales.

with aluminum foil taped on the inside of the front windows. The motor pool is equally frugal: mostly cars impounded at the Mexican border for drug smuggling. And not luxury cars, either. We set off to a warehouse in a dusty blue 1977 Impala with plastic upholstery. There's a screech in the front end like a wheel bearing about to fail. Laverty's morale hasn't suffered any to speak of; when I ask her about the aluminum foil, she answers with a musical laugh, "We couldn't get any curtains!"

At the warehouse, Laverty meets fellow inspector Karen Johnson to start examining containers of imported goods—mostly toys today. Here we're probably two miles from the water, but Johnson points to the rear doors of a 40-foot container and tells me, "Technically, right now, this is the border." The Customs Service picks out a fraction of the containers entering the country, notifies the importers, and the importers arrange to have their containers trucked to bonded warehouses like this one for unloading under Customs supervision. If everything is legitimate in this container, the warehouse's laborers can pack it up again. Then the box proceeds to its destination along the usual freight routes.

The inspectors watch as men cut the container's metal seal and unlatch the locking bolts. Laborers and a forklift start working the boxes free, and the inspectors segregate a few cartons off to one side. Meanwhile, the forklift driver, singing in Spanish, is heaping most of the boxes at the rear of the warehouse. The inspectors cut the boxes open with well-worn knives. They pull out toys to match against invoices and consult each other's knowledge about what might be infringing, and of what is registered with Customs (they can only confiscate counterfeits that infringe on a mark registered with Customs). Finally they put the toys back and tape up the cartons.

Customs has tasted success. Nationwide it seized more than $35 million worth of bogus goods in 1985. The agency often works closely with other government agencies and trademark owners: Apple Computer, for example, provided inspectors with kits to test the multitude of Apple II rip-offs that started pouring into the country from Taiwan in 1982.

But even by a long stretch of the imagination, Customs couldn't solve America's counterfeit problem. Of the 1.5 million containers that entered the Los Angeles-area ports last year, Customs was able to thoroughly search only two to five percent, says Alan Walls, special agent in charge at Los Angeles. And even with those containers that do get the inspector's scrutiny, counterfeiters don't take first priority. Each inspector wears hundreds of hats: watching for agricultural fungi and pests, challenging import classifications that attempt to sneak products into the country without payment of duties and looking for contraband guns and narcotics.

Even if inspectors could search all the containers and ships and planes arriving here, counterfeiters would still slip key items across the Mexican and Canadian borders, such as neck tags for fake Izod shirts and memory chips for fake Apple computers.

Finally, not all counterfeiting takes place abroad. Some Hong Kong watches are fakes only because

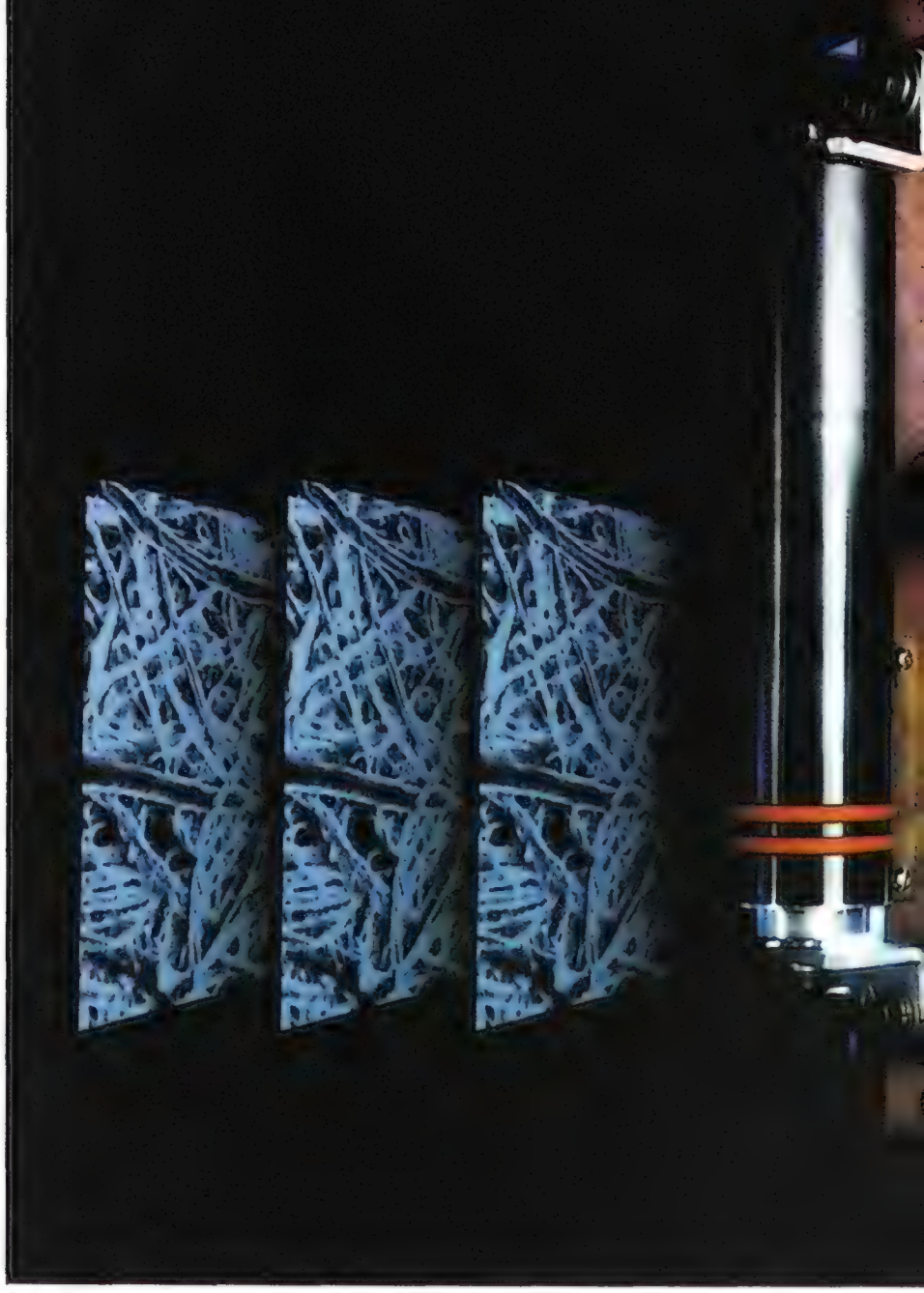
Halfway through the research for this article, the author began asking for his credit-card carbons and warning friends about how to buy brake linings.

workers in Miami and New York have added the logos of Cartier, Gucci, Piaget or Rolex onto the blank faces. Jim Gooch has traced most of Bell Helicopter's problems to Southern California. Fake General Electric vacuum tubes for airliner navigation systems also come from that area.

Once inside the border, counterfeits bring forward the second line of defense: the American legal system. Under a federal law called the Trademark Counterfeiting Act of 1984, wrongdoers can go to jail for up to five years and pay fines of up to $250,000 for a first offense, plus damages of three times the profits involved. The system also sets the rules for how trademark owners can get court orders to raid counterfeiters. Because the raids are an invasion of privacy and usually allow reasonable force, judges insist that all the legal formalities be observed.

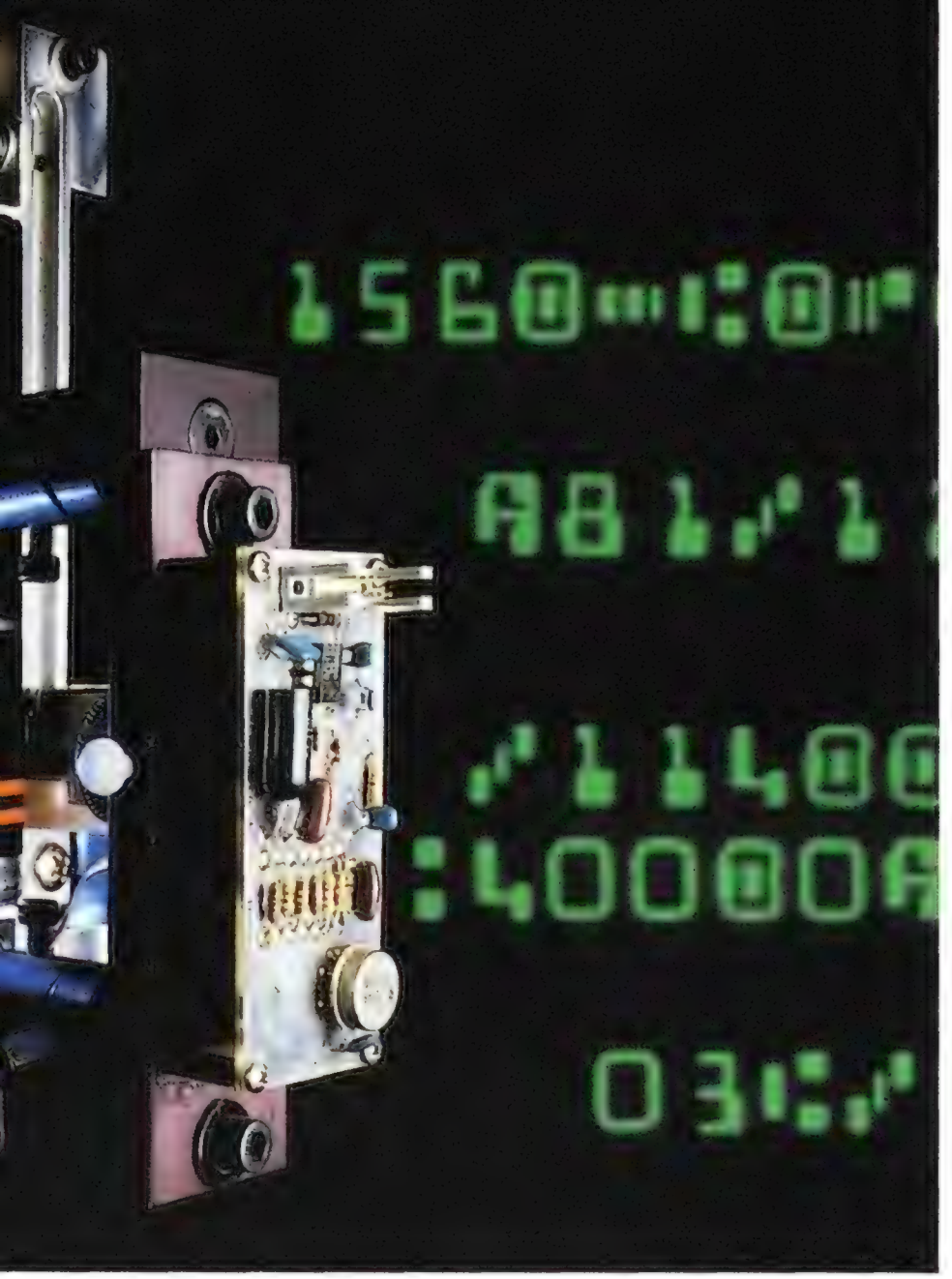
"We won't tolerate any John Waynes around us," says attorney Charles Hosch of the seizures he's been on. Hosch works for a Dallas law firm that's enforced trademarks on watches, toys and toiletries. Describing how a counterfeiter may respond to a sudden raid, he says, "You can't tell how he'll react. But you can tell within 30 seconds. He may pull a gun; that's happened. He may collapse and cry—that's happened, too."

Probably the premier counterfeit detective on the West Coast is Bill Ellis (p. 39). He runs a company called National Sales Audit from a peach-colored one-story building in suburban Los Angeles. The windows are mirrored. On the front door is the name of a generic importing company. If that name isn't good enough for you, Ellis has several others—all registered with the State of California as fronts for his undercover work. Inside, the place has the look of an attic superimposed on an office with an extraordinary number of telephones. In a glass case, on a low table and heaped on the divan are shirts, jeans, bottles of shampoo, watches



In Light Signatures system, a beam reveals unique fiber structure of the paper at left, magnified 200 times.

Polaproof labels have 1,500 lenses per inch. When tilted, images appear, disappear or change color.



Sensors in device at center digitize the pattern and encrypt the results, giving the number at right.

Embossed screens are used in making watermarked paper for bank notes at Portals in Bath, England.

and at least a dozen robots. On a desk is something with seven legs, a bug-head and a ray gun.

Ellis, now 49, blond and paunchy, grew up north of Boston. Five days shy of age 18, he answered a newspaper ad posted by a detective. Told he was too young, he came back and got the job five days later. In 1960 he came out to California to see the Olympics and decided to stay. He set up a detective agency in Los Angeles, one that specialized in ferreting out fraud in auto dealerships. The business built up to 25 investigators in the field, and he spent his days moving them around and doing paperwork. About six years ago he decided he wasn't getting enough excitement. He cut back his work force, returned to the streets and switched over to anticounterfeiting work.

Now he and ten employees devote themselves exclusively to counterfeits. They make purchases at flea markets, on street corners and in discount stores. They attempt to make connections between seller and supplier with a lot of legwork, all-night surveillance and a good deal of undercover role-playing. A favorite tactic in important cases is gradually to place three detectives into a counterfeiter's clientele over a period of months. The third, or last, detective in then makes a purchase and goes public to testify in court. That usually brings a permanent restraining order never to sell those fakes again. If the counterfeiter persists, then the second detective makes a buy and testifies in court for a second complaint. That brings a contempt-of-court citation, and if the counterfeiter ignores that and sells to the first detective, a contempt-of-contempt citation.

Counterfeiters rarely end up in jail

That's usually the only way a counterfeiter will end up in jail because most prosecutors don't want to spend the time to press for prison sentences under the counterfeiting laws. Usually the trademark owner settles with the counterfeiter out of court. If he's lucky, says Ellis, a client will find enough assets to actually collect some money.

Ellis and his merry men have their peculiar talents. He himself teaches ham radio classes two evenings a week. When I join him to go along on several raids in November, his three assistants are Scott, Wayne and Steve. Scott, bearded and quiet, is a TV cameraman and videotape editor. Wayne is a computer-science student of Oriental descent. He races motorcycles on the amateur circuit. Steve, black-haired and rotund, is a part-time magician and clown. He uses his clown act to serve court papers on particularly elusive people.

Lawyers Mark Flagel and Neil Smith have obtained court orders for Adidas USA (the sportswear maker) and the Walt Disney Company to raid four businesses known to be counterfeiting their T-shirts. The raiders

Microcomputer chips, manufactured in these strips, can be embedded in plastic cards to make them unique.

start gathering at 9 on a Thursday morning, in a café northeast of Los Angeles. By midmorning everybody is accounted for: ten men in all, counting attorney Smith, two deputies and two representatives from Ocean Pacific Sunwear, a designer-clothing company that has had persistent counterfeiting problems of its own and has offered help for these raids.

During the first raid I learn that a counterfeit seizure is a cross between a drug raid and an Easter egg hunt. It's serious business, and everyone appears glad to have the deputies along if resistance develops. But this time, like most times, the raiders walk right in and the owners offer no trouble—only embarrassment. Quickly the raiders branch out to find all the contraband they can in the limited time available. They swiftly strip the shelves of the contraband covered by the court order and take a fast look through boxes and back rooms. Within 20 minutes, the shirts are piling up in the white panel truck. Ellis and Smith hurriedly riffle through check stubs and sales slips. I expect someone to sleuth through trash baskets, gathering a web of buyers and sellers, but there is no time for fancy detective work. We leave the proprietor with a stack of legal documents and a receipt.

Ellis has grim advice for inventors who want to make and sell a better mousetrap: "Get into the market right away, make your fortune and retire to Hawaii. It won't take long at all for the counterfeiters to move in, and then it will take a million dollars a year for you to keep control."

One set of companies hopes to stem counterfeiting by throwing technology at it, rather than more lawyers and detectives. They sell certificates and labels that make it possible to tell whether an article is genuine. Some tags require special instruments to verify them; these are for use by anticounterfeiting specialists. Others require only a glance; these are meant to tip off potential buyers before they part with their money.

Codes derived from fiber patterns

In the first category are certificates sold by Light Signatures Inc. They are ordinary paper. Like fingerprints and snowflakes, all pieces of paper are different. Light Signatures shines a beam of light through a strip of the certificate onto an array of 256 sensors (pp. 40-41). The different alignment of fibers in each certificate produces a different pattern of response from the sensors, which is encrypted in a string of digits that become the identification number. This is then printed right on the certificates, which are inserted into the product packages. A note asks customers to mail them back to Light Signatures, which runs them through the system again and compares the results with the printed digits. If the numbers don't match, the certificate is fake and probably so is the product it came with. That makes it possible for a manufacturer to verify its goods through the mail.

Within a few years a crystalline structure that can be read by Light Signatures may be added to your plastic credit card. Credit-card counterfeiting is a major problem—it accounted for about ten percent of the $588 million lost from card fraud nationwide in 1985, estimates Spencer Nilson, who publishes a newsletter for the credit-card industry. Another possibility is "smart-cards" with fingernail-size microcomputers built in (above). They're being spot-tested in this country, and French banks are already buying millions of them. Currently, MasterCard and Visa cards feature small holograms. Of the three credit-card technologies, the holograms will probably be the easiest to counterfeit. During a recent demonstration in Los Angeles, inferior but passable holograms were made from equipment costing less than $1,000, says Nilson.

Baird Corporation, a company that specializes in security and military electro-optics, sells invisible ink for bar codes. The ink uses secret chemical compounds

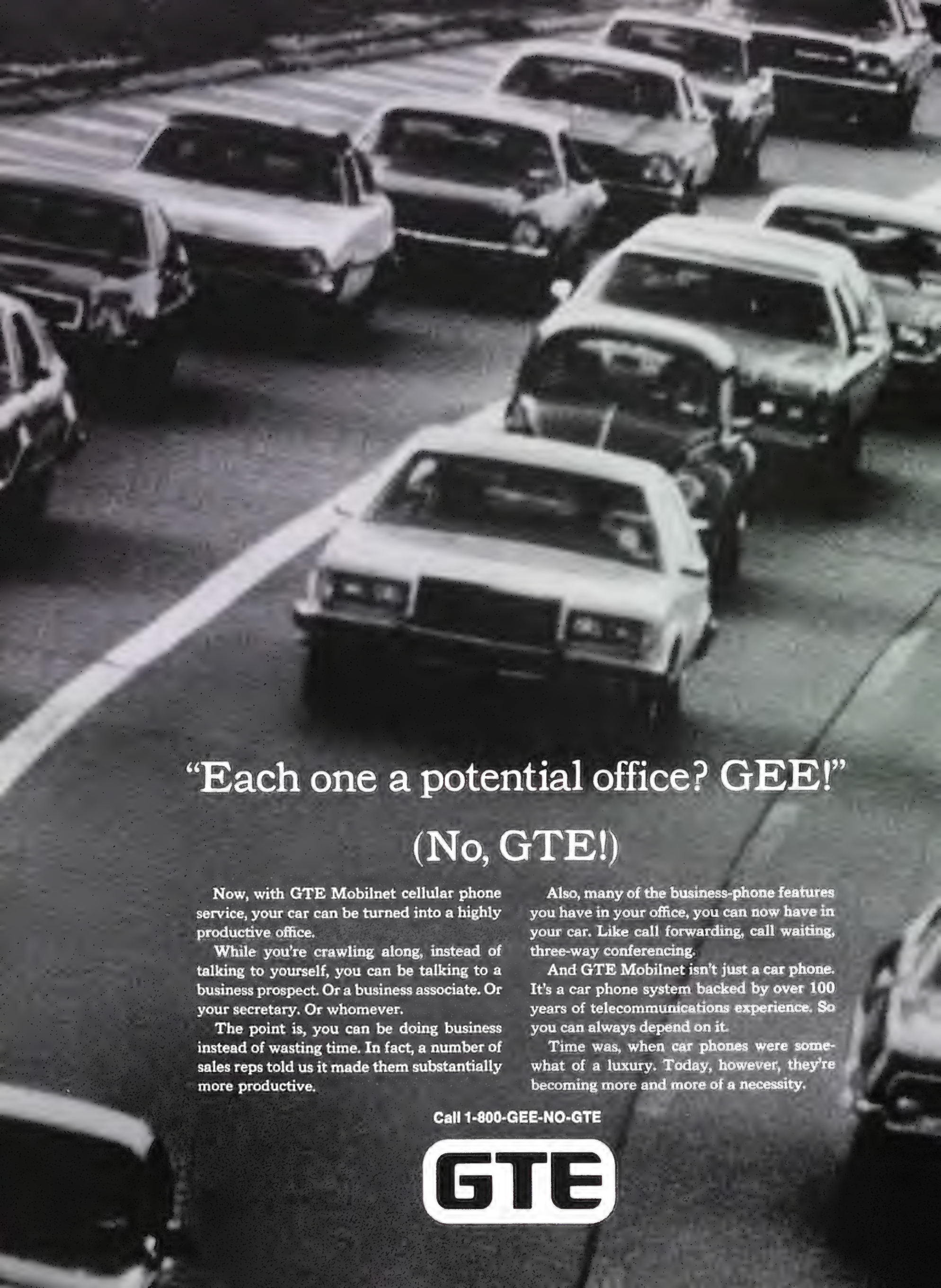
to make mixtures that, the company claims, criminals can't reproduce. Baird sells hand-held instruments to read the bar codes. Tiny checkerboardlike glyphs called Vericodes can be laser-etched on items ranging from auto parts to microchips by Veritec Inc. Billions of different glyphs, as small as a pinhead, are possible. When scanned and decoded by one of the company's computers, they reveal the item's ID number and other information such as date and place of manufacture.

Coming from a different direction are manufacturers who produce tags that anybody can check. Polaroid sells "Polaproof" tags that use tiny ridges to bend light and change color (p. 40). You'll find them on some luxury watch packages, video-game cartridges and videocassettes. As you move a Polaproof tag around under a light, it produces a shimmering negative-and-positive image. Pulling the tag off the package usually destroys the effect. The technology required to produce these markers is beyond the capacity of counterfeiters.

The conventional war still goes on, however. It's 5 o'clock on a Thursday in November. Bill Ellis, Neil Smith and their T-shirt raiders have pulled up on a sidewalk on Jefferson Boulevard in south Los Angeles to get out of the thickening traffic. They've decided to put off the day's third raid until the next morning because the target closed up early and they couldn't get a policeman in time. Ocean Pacific attorney Craig Correll and Ellis spend a few minutes swapping stories about murders among counterfeiters and informants. Then Correll turns to me and takes a few minutes to state his philosophy. "I see this—what's happening to designer-clothing companies—as what might happen to all trademarks," he says. "Now it's mostly T-shirts and clothing, but eventually you get to a point where, if you can't take a defective shirt back and get a refund, or if a tape breaks and gums up your stereo and you can't do anything, or a brake lining fails, or this thing with pharmaceuticals . . . well, at some point we're going to go into a grocery store and look at a can of Campbell's soup and wonder if that's what's really inside."

The men disperse to their cars and trucks, a little frustrated at not being able to pull off the day's third raid. But they'll be back tomorrow—with the police.

Some credit cards and bank notes have images and numbers that become visible under ultraviolet light. They are easy to counterfeit, however. The move now is to metal threads, which are harder to duplicate.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By Leonard Maltin

Silent-film buffs stalk and find a missing Tramp

Two British filmmakers track down priceless 'lost' movie footage shot by Charlie Chaplin, whose U.S. fans can watch it this month on TV

Linked by *Unknown Chaplin* are David Gill (left); Geraldine, Oona O'Neill Chaplin; Kevin Brownlow.

Imagine yourself rummaging through Shakespeare's house in Stratford-on-Avon and finding—on a yellowed scrap of paper—one of the Bard's sonnets that had never before been published.

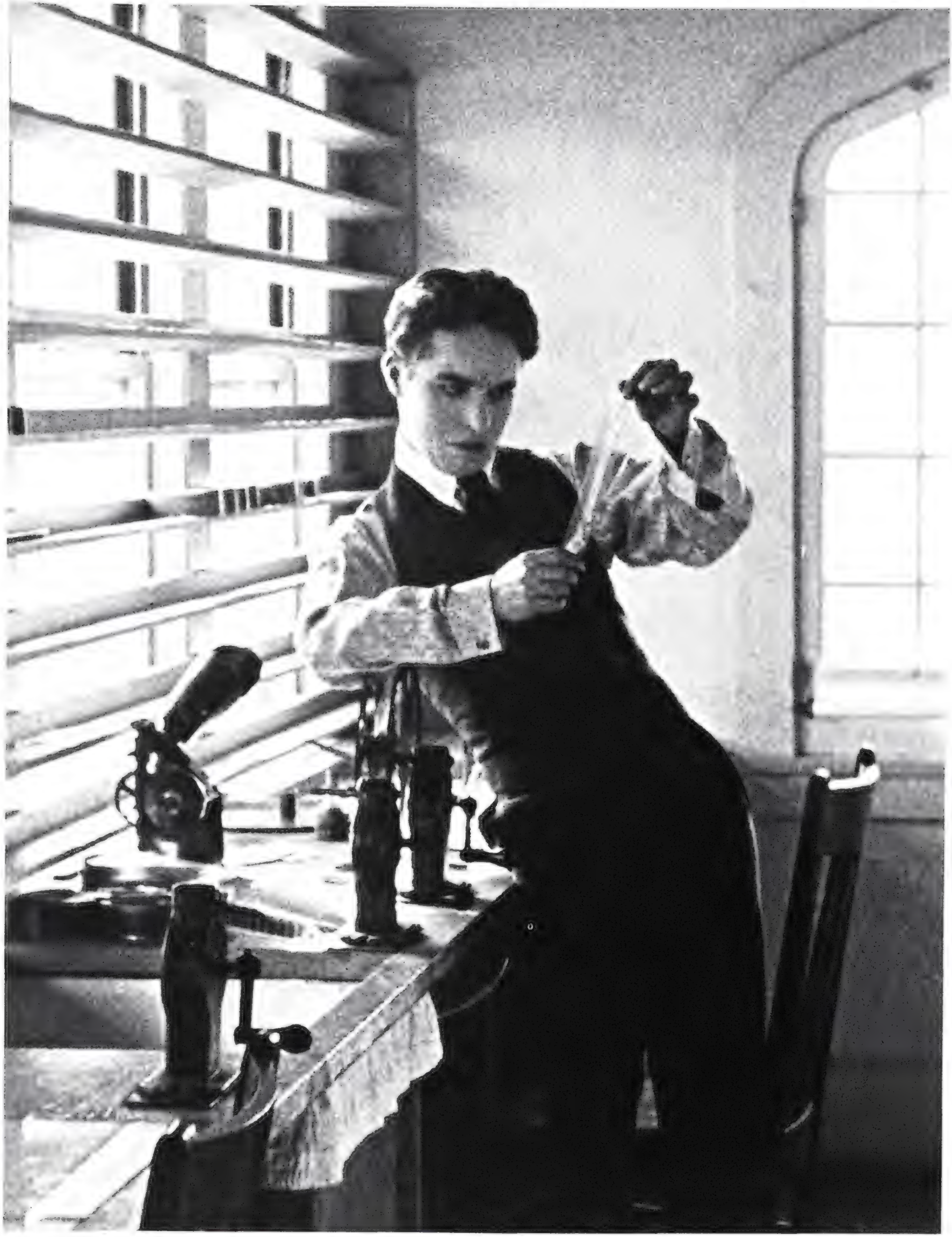
Picture, if you can, a scholar poring over the personal effects of Picasso and finding preliminary pencil sketches for all of his most important paintings.

Now envision two of the world's leading film historians and documentarians being ushered into Charlie Chaplin's private film vault—and finding reel after reel of Chaplin footage never shown to the public. This incident actually happened, to British filmmakers Kevin Brownlow and David Gill, and it was the genesis of a remarkable three-part documentary called *Unknown Chaplin* that will be telecast in one-hour segments on PBS July 14, 21 and 28. The programs are sponsored by the National Endowment for the Arts, Public Television stations and Rosalind P. Walter.

Why all the fuss about some unknown silent movies? Because what Shakespeare was to theater and Picasso to modern art, Chaplin was to motion pictures. Some people consider movies the 20th century's greatest art form, and many consider Chaplin the movies' preeminent genius.

His Little Tramp character was universally known and loved, a visual symbol of Everyman. With his gentlemanly hat and ill-fitting jacket, his bamboo cane and oversize shoes, he was the classic silent clown. He broke every language barrier because he never spoke a word. He transcended all social strata: Who couldn't identify with this spirited underdog, an artful dodger who confounded cops, punctured pompous egos, ran circles around the bad guys and sometimes—sometimes—even got the girl?

Chaplin's impact was so strong and swift that within months of his screen debut he was one of the movies' biggest stars. By the end of his first year in films he was, without exaggeration, the most famous man in



Rare look at young Chaplin, 1918, sans costume is from *How To Make Movies,* a comedy-documentary made to show off new Chaplin Studio in Hollywood. He was "severe" cutting-room editor on- and offscreen.

Abel Gance makes a directorial (gun)point as he films *Napoleon*, 1923-27. Brownlow restored the lost epic.

D day reversed: Gill (right), Raymond Rohauer greet France-to-England cargo of Rohauer's outtake gems.

the world. It didn't take a high-priced media campaign to orchestrate his success; the public made him a star. It was said that all a theater manager had to do to guarantee a crowd was to place in front of his box office a cardboard cutout of the Tramp bearing the slogan "He's Here Today!" He inspired toys, dolls, comic strips, popular songs, highbrow articles, lowbrow imitators, and unprecedented adulation—all of this before TV or radio to help spread the word. Even today, a major computer company, IBM, has chosen the Tramp to represent Everyman who struggles to survive in the high-tech '80s. No entertainer has ever made such a lasting impression on the public.

Charlie and the movies: made for each other

A clown, an entertainer . . . but there was more to Chaplin than that. Within months of his movie debut, he was directing and writing his own films, though he'd had no movie experience before going to work for producer Mack Sennett in 1914; the 25-year-old Briton had spent most of his life onstage and had come to America with a music-hall troupe. But he and the movies were made for each other, and both came of age at about the same time.

Chaplin wanted to be master of his own fate onscreen, and his popularity earned him that creative clout as well as financial reward. (Sennett paid him $150 a week to start. A year later the Essanay Company signed him for $1,250 a week. A year and a half after that he contracted with the Mutual Film Corporation for $12,844 a week, plus a $150,000 bonus. And in 1917 he signed a million-dollar contract with First National Exhibitors' Circuit. Remember, there was only a minuscule income tax back then.)

As a child who'd lived in poverty, money meant a lot to Chaplin—but so did independence. He was developing definite ideas about the art of comedy, and managed to introduce sentiment, satire and even social criticism to his work—all this without forgetting the belly laughs.

By 1918 he had built his own movie studio in Hollywood, the better to control his creative atmosphere. He worked only when inspired (as often as not his cast and crew would be sent home midmorning) and almost always without a script. He would try a scene over and over until he was satisfied, and then, the next day or the next month, do it all over again. Some called this self-indulgence, but no one questioned the results.

Charlie Chaplin was one of a kind.

So it seemed to me when I was introduced to him many years after his glory time in Hollywood. Sound had come to films, and TV had supplanted movies as America's major source of entertainment. But when my parents took me, a movie-crazy nine-year-old, to a

Chaplin demonstrates to jumbo actor at left how to choke diminutive colleague during a "rehearsal" scene later used in *How To Make Movies*. Edna Purviance, one of his major leading ladies, pays close attention.

revival of Chaplin's *Modern Times* in 1959, it was love at first sight. I had to see more.

I began collecting 8-mm prints of his silent comedies and showing them to approving friends and relatives (this was long before videocassettes were being sold at every corner convenience store). I clung to my copy of Theodore Huff's 1951 book on Chaplin, the bible which I found at a used-book sale for 50 cents. Every time I saw another film I reread Huff and checked the credits in his filmography. By the age of 13, I knew I wanted to spend my life researching and writing about old movies, and Chaplin was the reason. He was my idol.

Then it was announced that Chaplin's autobiography was about to be published. I remember my feeling of excitement when I heard the news. Now I could read what the Great Man himself had to say about his life and work. I could learn what it was like to create those wonderful films. I might even get an idea of what made Charlie tick.

My Autobiography was published in 1964: an instantaneous best-seller, a universal disappointment. Chaplin offered no insights, no revelations, almost no information that wasn't already known to his biographers and students. (He was, and probably still is, the most written-about figure in movie history.) Those looking for scandal and sex were probably disappointed as well. Chaplin's marital escapades had been so well documented over the years that there was little he could add.

Perhaps, as his latest biographer, David Robinson, suggests, Chaplin didn't think a discussion of his working methods would be that interesting to anyone. Ever the entertainer, he may have felt that people wouldn't care, so instead he offered anecdotes about the international celebrities he had known. Or it could simply be that an artist is not the best authority to chronicle his own career.

No matter. For now, after his death, indeed because of it, Chaplin has found his Boswell—two Boswells, in fact—who have used Chaplin's own medium to illuminate his art. "Had he lived, while he lived, *Unknown*

Chaplin treasures 'lost'—and found

On the grounds of the new studio at Sunset and La Brea stood a lemon grove: Charlie offers a sample.

Chaplin never would have been done," says Kevin Brownlow. The reason is simple: Chaplin did not want his rough drafts, if you will, to be seen by the public. But most of what Kevin and David Gill found in those long-unopened film cans in England was far from rough. In fact, it was pure gold: a short subject called *The Professor*, with Chaplin out of his Tramp make-up, playing the proprietor of a flea circus; test and rehearsal footage for many of his most important films; home-movie footage of famous people from Winston Churchill to Harry Lauder visiting the studio; and several polished, completed sequences that Chaplin cut from his finished films.

The keeper of the vault near London was Chaplin's longtime business manager, Rachel Ford. She had invited Brownlow and Gill to come and search for "a snippet" of film they could use in their 13-part TV documentary on the silent-film era, *Hollywood*. She selected several cans from the neatly labeled stacks and arranged to have them projected. Kevin and David had no idea of what they were about to see.

One of the first pieces that flashed on the screen was a sequence that appeared to be from the greatest film, *City Lights*. Both men recognized it immediately from the familiar settings—but they didn't recognize the scene itself. "I was absolutely sick with excitement," David recalls, "realizing what we were doing at that moment, seeing a film which Charlie had shot, cut, put together—a little scene that ran about six or seven minutes, complete with a beginning, middle and end—perfect in all its ways and lying on that shelf unknown to anyone outside of Charlie's immediate circle for 50 years! It felt like opening the door on Tutankhamun—an emotional moment."

The scene shows Charlie turning the corner on a busy sidewalk and coming upon a stick protruding from a pavement grille. He tries to extricate the stick with his cane, but only succeeds in tilting it in the opposite direction. As he becomes more determined to master this minor challenge, a crowd gathers to watch and the comedy builds in momentum. "Here," says Kevin, "is the apotheosis of what Chaplin stood for. More than anybody else in pictures, he could take the smallest object and the least promising prop and turn it into a fabulously funny sequence."

Rachel Ford saved this priceless material in defiance of Chaplin's specific wishes. He wanted all such footage destroyed, and in fact believed that it had been done. Now, Brownlow and Gill felt equally committed to finding a way to share the footage with the public. To their minds, it simply had to be seen in a program

Film historian Leonard Maltin is movie critic for TV's Entertainment Tonight. *An updated edition of his reference book* TV Movies *is being issued.*

all its own. But permission to use it would have to come from Chaplin's widow, Oona.

"It was clearly a very difficult decision for her, because she was very conscious that she was going against his wishes—was it an act of disloyalty?" recalls Gill. "The argument we used, a genuine one, was that he was of such importance in the cinema that it was bigger than all of us. Now that he was dead, we owed it to him as the man and artist he was, that all this should be seen. She agreed."

How To Make Movies, *shot by shot*

But that was just the beginning. Having found this priceless cache, the two filmmakers embarked on an odyssey that swallowed several years of their lives and led them to even further discoveries. In fact, they are the ones who, using a title list from the Chaplin archive, pieced together *How To Make Movies* from shots of daily construction and hijinks—including a "rehearsal" (p.49)—at Chaplin's new studio in 1917-18. The film is one that Chaplin himself never assembled.

Brownlow and Gill are no ordinary filmmakers. They are men with a mission. Kevin has devoted his life to collecting, chronicling and celebrating the silent film (a medium he fell in love with much as I did, via a home-movie projector), though his career as a historian came about by chance. At 25 he made his first trip to America, purely a vacation, but he made it his business to look up some of the silent-film actors and actresses he'd always admired.

While waiting for an appointment at the Masquers, an actors' club in Los Angeles, he overheard a woman showing a friend some of the historical photographs on the wall. When she couldn't identify a figure in one, Kevin chimed in to say it was Fred Niblo. The woman was astonished.

"You can't know that!" she exclaimed.

"Well," Kevin countered, "he was a silent-film director and they fascinate me."

"My husband's a silent-film director," she replied, "but you wouldn't have heard of him. His name is Joseph Henabery."

"I fell out of my shoes," Kevin recalls. Joseph Henabery had played Abraham Lincoln in *The Birth of a Nation*. He went on to become an assistant to its famed director, D.W. Griffith, then had a distinguished directing career of his own, guiding such stars as Douglas Fairbanks and Rudolph Valentino. Here was a living link to movie history.

Kevin immediately made an appointment and, with tape recorder in hand, met Henabery. "I asked him one question and he talked for four hours," he says. "I had never been present at a more riveting interview, and I decided then that I had to make that interview available. I had to publish it, and I had to do a book."

At *City Lights* rehearsal, Chaplin shows how he wants a blind flower girl to offer her wares to the Tramp.

Within the next ten days he conducted 28 more interviews. He spent an afternoon with Buster Keaton. Reginald Denny opened a packing case full of movie stills from his films and said, "Take what you want." Minta Durfee Arbuckle, widow of Fatty and a Mack Sennett comedienne herself, took Kevin to Echo Park Lake and showed him where they filmed the early Keystone comedies. The resulting book, a chronicle of the silent-film era called *The Parade's Gone By*, was embraced as one of the finest works of film history ever published. It established Brownlow's reputation around the world.

But for Kevin, writing about film was a secondary pursuit. He wanted to make movies himself, and nothing inspired him more than a 1927 French silent film called *Napoleon*. He'd acquired two excerpts while in his teens and decided that he had to see more. When he learned that no archive possessed a complete print of this epic (and that few seemed to care about it) his determination redoubled.

He spent—without exaggeration—the next 25 years combing the globe for footage (which turned up everywhere from Paris flea markets to Hollywood vaults); meeting and then befriending the film's director, Abel

Chaplin treasures 'lost'—and found

Gance (p.48); battling various special interests (including the French government) for rights and permissions; and at last restoring the four-and-a-half-hour movie—with a Cinerama-style finale spread across three screens. Gance, at 90, got to see his forgotten film hailed in every major city of the world, all thanks to his greatest fan.

But Kevin still isn't through. "There are a few more little moments that have turned up," he told me not long ago. Whenever that happens he tries to find the time and money to integrate the newly found footage into his master print. Would he call his lifelong attachment to *Napoleon* an obsession? "That's reasonable," he replied.

It also is reasonable to assume that David Gill shares Kevin's enthusiasm for silent films, but, David confesses, "I came to movies late in life. I've done everything late in life." He intended to follow in his father's footsteps as a doctor; at 16, however, he turned to ballet and became a dancer instead.

"I always say I started late so I ended early," David explains with a smile. By age 20 he was a featured soloist with the Sadler's Wells Theatre Ballet and even toured the United States. But the limitations of a dancing career and the prospect of spending most of his time on the road (away from his wife and child) led him to think about another change. He'd grown more interested in film and even shot some movies of the ballet troupe. This, he decided, might be his future. His timing was good: TV was just getting started in England, and David was willing to work his way up. He showed real aptitude for film editing and was drawn to the documentary division of Thames Television where he eventually became an editor, then director, for their documentary series *This Week*. David was well established at Thames when it was suggested that he work with Kevin Brownlow on an ambitious silent-film series. The two hit it off right from the start and have developed a solid partnership. But any suspicion that this team consists of one film buff and one documentarian should be laid to rest: Kevin has a strong background as film editor and filmmaker, while David has become an equally fervent proselytizer for silent film.

Their collaboration on Thames' 13-hour series *Hollywood* produced the finest program of its kind ever done: an affectionate, intelligent look at a remarkable era. (It was shown on American TV, but without the fanfare it deserved.)

Having spent three years (and a reported $2 million) making *Hollywood*, Brownlow and Gill had established themselves as perfectionists and Thames now gave them the freedom (and time) they needed to get their newest project, *Unknown Chaplin*, done right. But no one realized that it would involve so many hurdles and surprises.

The biggest revelation came when David and Kevin learned of a second cache of Chaplin goodies. In the making of *Hollywood* they had come to deal with Raymond Rohauer, a collector of rare film footage. Rohauer had acquired both rights to and original negatives of a number of important film libraries, and Kevin knew they would need his help.

One day in casual conversation with David, Rohauer mentioned owning some "unusual" Chaplin material, and quite a lot of it. How unusual? A supremely cautious man, Rohauer was reluctant to say at first, but finally let on: he had the negatives for all of Chaplin's outtakes on his earliest classic shorts, the ones made for the Mutual Film Corporation in 1916-17. They had been discarded in Hollywood some years earlier and wound up in his possession.

For the outtakes, a treasure hunt in France

All the outtakes? For comic gems like *The Immigrant* and *The Cure*? David and Kevin couldn't believe it. This they would have to see. But Rohauer was reluctant to play show-and-tell. Thus began a round of maneuvers and negotiations only slightly less complicated than the plans for the Normandy invasion. In fact, the task was not dissimilar, for Rohauer had spread these precious cans of film in a variety of storehouses throughout France. Finally, David agreed to hire truckers, coordinate their efforts in France, arrange for shipping, clearing through customs and delivery to a neutral base in England (p.48) where some of the footage could at last be seen.

The fateful day when the moving van made its way across the English Channel was a harrowing one for David and Kevin. There was one foul-up after another, one misunderstanding fueling another attack of

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In 1918 Chaplin trims pre-Hitler mustache, unaware that it presages his 1940 role as *The Great Dictator*.

skepticism (were they being led on? was the footage really there?). Upon the truck's arrival in England, a punctilious customs official demanded specific identification for every can in it, while the driver gave David the willies by looking and sounding just like Robert Newton in *Treasure Island* ("It's a strange old carriage you got here, isn't it?" he growled).

Finally, finally, the goods were delivered into Kevin and David's eager hands. There were literally hundreds of cans—"Thirty, 40, 50 labeled *The Immigrant*," David recalls. "Twenty, 30, 40 cans of *Behind the Screen*. Thirty, 40, 50, 60 cans of *The Cure*. And then—ah, only six cans of *The Vagabond*. You soon got into a state where anything less than 30 or 40 was a major disappointment."

But what condition would the footage be in? This was volatile nitrate film, the bane of all film archivists not just because it's so flammable, but because in time it congeals and then disintegrates. And these were negatives, not prints. They could not be projected, so an editor's viewing machine was rented to enable the discoverers to pore over their booty.

"We had to pick out a roll and see how it ran," David explains. "Some was very badly shrunk, some ran very well, some literally refused to unwind because it was all glued together." (They decided to use a piece of badly decomposed footage at the beginning of *Unknown Chaplin* to show what happens to films that haven't been preserved. It's a painful moment, but it does serve to underscore the miraculous survival of so much of this Chaplin material.)

As they sampled these rolls of the very negatives that passed through Chaplin's camera in 1916 and 1917, the two began to realize what it was they had come upon. Because he didn't have a script—and because he couldn't be behind the camera and in front of it at the same time, as director and star—Chaplin worked out all of his ideas on film, not paper. Having all his rushes and outtakes, labeled by shot number, right onscreen, meant having a visual diary of the man at work. It was an incredible opportunity to watch each film evolve through Chaplin's unique system of trial and error. And the process of discovery is re-created for us in the TV documentary as we watch the films take shape.

Anyone who's familiar with such wonderful Chaplin shorts as *The Cure* and *The Immigrant* (I ran my own 8-mm prints to death) will be astonished to see how tentative Chaplin's ideas were when he got started on those films. At the outset of production of *The Cure*, he plays a bellhop at a fashionable spa. Then, after reaching a creative dead end, he tries changing his costume and casting a different actor as his adversary. In shot 77 he introduces the idea of a medicinal well and a drunken guest who stumbles into it. Finally, in shot 84—after days of filming—Chaplin himself assumes the role of the drunk, and the film takes off in the right direction.

An immigrant's life begins at 388

The Immigrant is even hazier in conception. Chaplin started filming this short on a restaurant set, detailing his own misadventures with an unfriendly waiter. In shot 46 he decides to introduce leading lady Edna Purviance to the scenario. By shot 70 he has the Tramp meeting Edna. Then, halfway through production, he realizes that the counterpoint of the testy waiter isn't working and he makes a tough decision: to recast the part and reshoot everything from scratch. The new material, with Chaplin's famous "heavy," Eric Campbell, as the waiter, works wonderfully. But there's still no structure to Charlie and Edna's relationship. It isn't until shot 388 that an idea crystallizes in Chaplin's mind: Edna will be an immigrant who has traveled to America with her mother, and Charlie will meet them both on the ship bound for Ellis Island.

Now he restructures the entire film around the immigrants' voyage to America. The movie has purpose and momentum, as well as poignancy. Ultimately, Chaplin returns to his restaurant set (by now the shot number is up to 745) to show Charlie and Edna having a reunion there, having lost track of each other since their arrival in the new country. The rest seems to fall into place. The film now has a beginning, a middle and a charming conclusion.

Other films begin with just a prop or a set as in-

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spiration; for *The Floorwalker*, it's an escalator in a department store. Sometimes Charlie paints himself into a corner and can't find a way out of a situation. We see tantalizing sequences from *Behind the Screen* and *The Adventurer* that never panned out.

And that's only the start. I've described merely a handful of the revelations to be found in *Unknown Chaplin*. Having gained access to the Chaplin vault and the Rohauer collection, Kevin and David were to find even more: home movies of Chaplin at work on *City Lights* and a playful amateur production featuring Charlie with such New York cronies as Anita Loos and Alexander Woollcott. A trip to the Chaplin home in Switzerland yielded even more surprises in his well-kept scrapbooks. All of this they supplemented by filming interviews with such Chaplin coworkers as the late Jackie Coogan, leading ladies Georgia Hale (from *The Gold Rush*) and Virginia Cherrill (*City Lights*), and Charlie's actor-son, Sydney.

The finished product is unique. Today we see countless videos and minidocumentaries on the making of new feature films, but no one has ever gone back in time and re-created this kind of record—until now.

I was lucky enough to see *Unknown Chaplin* nearly four years ago when Kevin and David were putting finishing touches on the program at their headquarters

Every youngster who dressed up as the Tramp got a free ticket to the opening of "Charles Chaplin in his very latest million dollar comedy—*The Idle Class*." Every kid in Bellingham, Washington, that is.

outside of London. After spending a week looking over their shoulders, I went home bursting with excitement. As I told my film-buff friends about the things I'd seen, and they expressed their envy, I assured them that they'd be able to see it all for themselves; the show would soon come to America. Such was not to be. *Unknown Chaplin* was broadcast in England in January 1983 to great acclaim. But there were no buyers in the United States. A conflict arose over sponsorship—even on PBS—because some companies felt they didn't want to promote the image being used in IBM's computer commercials. Other potential buyers dismissed it as being too esoteric. A few special screenings were arranged at museums and film festivals, where *Unknown Chaplin* was savored by audiences. And now, after all this time, it's finally going to make its debut on American TV as part of the *American Masters* series presented by station WNET in New York.

Meanwhile, Kevin Brownlow and David Gill are already in production on their next work, a documentary about Buster Keaton. Given their track record it promises to be good, but will it contain any rediscovered footage like *Unknown Chaplin*?

"That kind of thing only happens once in a lifetime," answers Kevin with a sigh. "But there will be some surprises."

Released in September 1921, film starred Chaplin as look-alike Tramp and Husband, costar Edna Purviance as Neglected Wife. Back then, Chaplin was riding high onscreen as most famous, adored man in the world.

By Yorick Blumenfeld

An heiress who threw open gates for modern art

The classic 'poor' little rich girl, Peggy Guggenheim struggled to make herself visible—and succeeded with a splendid museum

In her private gondola, ornamented with golden lions, Peggy rides Grand Canal wearing surreal glasses.

Many of us dream of leaving an artistic legacy. Few of us have the means or the determination to do so. Peggy Guggenheim, who was regarded during most of her 81 years as the enfant terrible of her famous family, always lived on the edge of the surreal, both in art and in her daily life. Her extraordinary passion is now immortalized. She is the only American to have her name emblazoned in large bronze letters along Venice's historic Grand Canal.

Peggy's former home, the Palazzo Venier dei Leoni, has been converted into a museum for her splendid collection of 20th-century paintings and sculpture, for which she paid less than $500,000 and which now has an estimated value of around $50 million. The range of works, from Picassos to Pollocks, makes it Italy's most important collection of modern art.

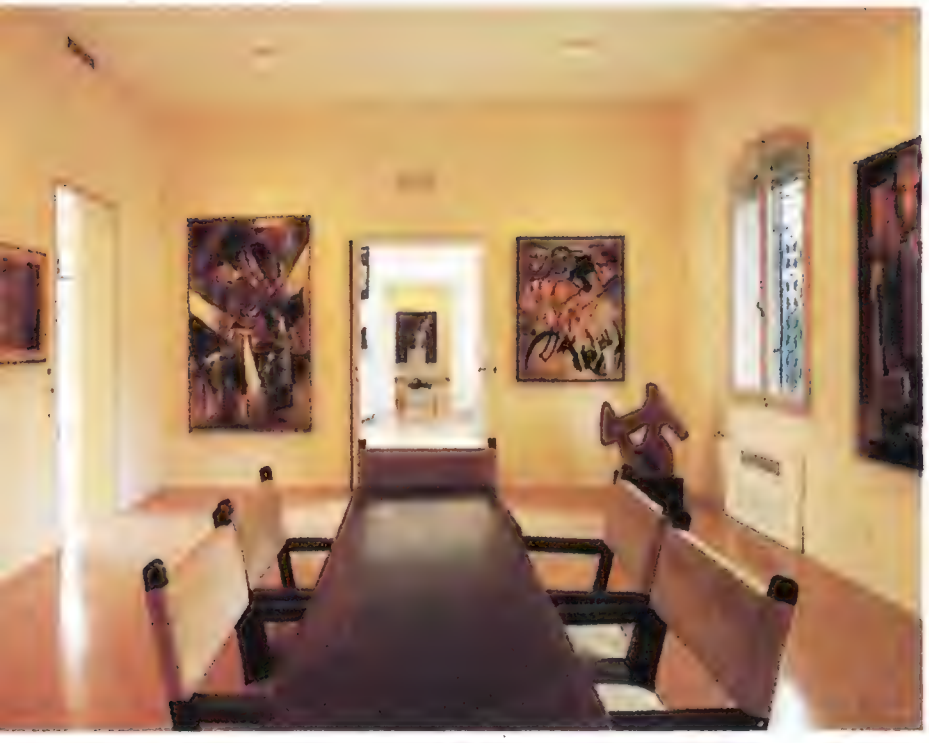
The popular image of Peggy as *L'Ultima Dogaressa* clutching a pair of Lhasa apso terriers while being ferried along the Grand Canal in her own private gondola was one which she deliberately cultivated. Without doubt, Peggy liked a touch of class, and the elaborately carved golden lions of her craft added the required touch of the fantastic.

In truth, however, Peggy spent a lifetime overcoming basic insecurity about her looks, her wealth and her position. She always regarded herself as one of the "poor" Guggenheims, and so she was, when compared with her uncles who had founded American Smelting and Refining. What she lacked in capital, Peggy made up with two other Guggenheim traits: a superb sense of timing (knowing exactly when to buy) and an almost unnerving ability to seek out the best advisers.

"Peggy's paradox is that so much good came out of so much doubt and trial and error," says Thomas M. Messer, the director of the Solomon R. Guggenheim Foundation, which runs the Venice collection and the New York museum. Messer, who first met Peggy in 1956, adds, "Everything Peggy did had a touch of elegance. Even if sharp-tongued and proverbially outspoken, she was quite shy and extremely feminine."

Messer says that Peggy had three strong collecting areas: the pioneers of 20th-century art, such as Picasso, Braque, Léger, Gris and Duchamp; the Surrealists, including Max Ernst, Dali, Tanguy, Magritte, Delvaux; and the New York School, particularly as represented by Jackson Pollock. "The charm of these works, taken as a whole, is that they speak of a particular moment in collecting history," says Messer, who singled out a few of his own favorites.

Marini's *The Angel of the City* stands at doorway of Peggy's grand Venetian palazzo, now a museum.



Present-day gallery in the Venice palazzo was used as a dining room during the years Peggy lived there.

Peggy bought the 18th-century palazzo for $80,000 in 1949, a bargain and a fine place to show her art.

"There are three sensational Picassos," he explained, including *The Poet* (1911), which is one of the most fabulous of the Analytical Cubist Picassos and which Peggy acquired in 1941. Messer considers *The Red Tower* (1913) by Giorgio de Chirico as another masterpiece. It is regarded as one of the greatest paintings of de Chirico's metaphysical period and it is the first work he ever sold. Among the sculptures in the collection, Messer most highly esteems *Maiastra* (opposite) by Brancusi and Giacometti's *Standing Woman.*

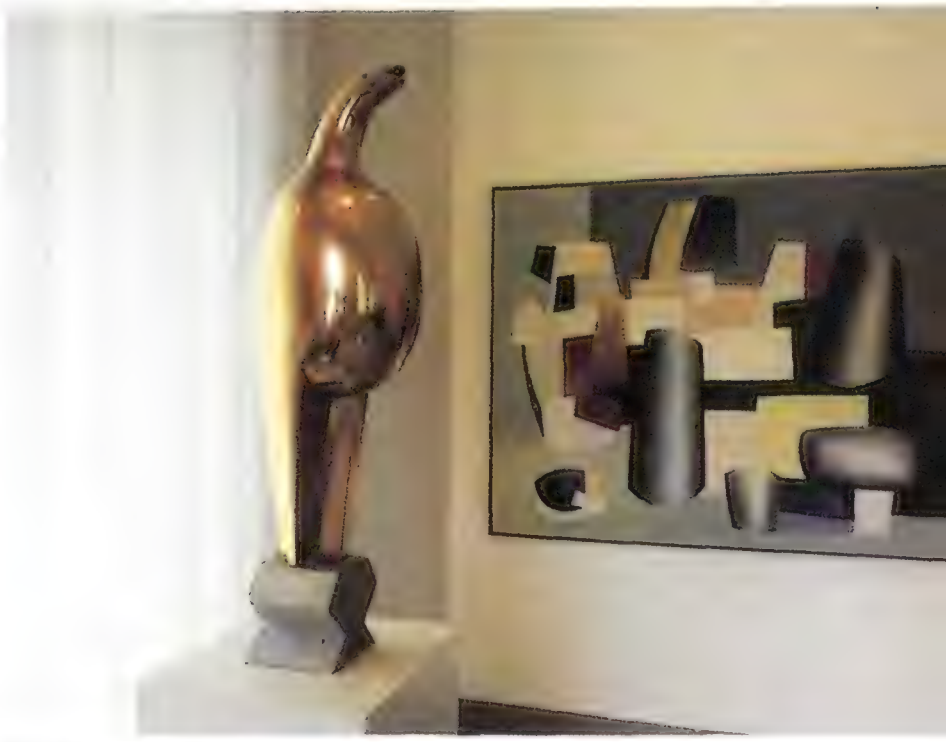
In her 1946 autobiography, *Out of This Century* (which the more conservative branch of her family referred to some years ago as *Out of My Mind*), Peggy wrote, "I comfort myself by thinking how terribly lucky I was to have been able to buy all my wonderful collection at a time when prices were normal, before the whole picture world turned into an investment market." Peggy was one of the original "trust-fund babies." Contrary to general belief, she inherited relatively little from her father, whose private business failed to prosper after he left the family partnership. Tragically, he went down on the *Titanic* in 1912. Nevertheless, because of trust funds set up by her uncles and her mother, she received the income from her first inheritance of $450,000 at the age of 21. She used the proceeds to lead what could justly be described as a life of lusty bohemianism in Europe.

In the roaring Paris of the '20s, she was often seen in the company of the likes of Marcel Duchamp and Isadora Duncan. Impetuously, she married the writer Laurence Vail in 1922 and their stormy relationship produced two children before ending in a breakup in 1928. Whatever Laurence Vail's shortcomings, he must be credited with introducing Peggy to Venice. Laurence had lived there as a child and, as she wrote in her autobiography, he knew "every stone, every church, every painting. . . ." Peggy was captivated by the city's floating unreality. She wanted to buy a palazzo there and then, but her money was locked up in trust funds.

Peggy drifted though several relationships in the '30s and was at a loss as to how to give meaning to her life. Then, in 1938, at the age of 40, she decided to enter the art world. The young writer Samuel Beckett, with whom she was in love during this time, urged her to become interested in contemporary art because it was "a living thing." Another friend and mentor, Marcel Duchamp, proceeded to educate her about values in the art market. "I don't know what I would have done without him," she wrote. "To begin with, he taught me the difference between Abstract and Surrealist art." Equally important, Duchamp introduced her to a galaxy of modern artists.

Peggy rented the second floor of a building on London's fashionable Cork Street early in 1938 and her secretary named the gallery Guggenheim Jeune. Peggy had wanted to give Brancusi the opening show, but when this did not materialize, she decided to exhibit Jean Cocteau. The gallery was a critical success.

Venetian society at the time was scandalized by modern paintings and sculpture she treasured there.



She acquired Brancusi's bronze *Maiastra* in 1940 and her son-in-law Jean Hélion's *Composition* in 1951.

Peggy's second show was of the Russian-born painter Vasily Kandinsky, who arrayed a range of his paintings from 1910 to 1937. As she admitted later, she bought only one of his canvases, from 1936, and missed out on "the marvelous early ones." Although she had not yet turned collector, she often bought one painting or sculpture from each show. "Thus, without knowing it, I started my collection," she noted in her memoirs.

Peggy's first sculpture show in April 1938 was to make her famous. She had planned an exhibit to include Brancusi, Arp, Laurens, Duchamp-Villon, Pevsner and Calder, as well as the then unrecognized representative from England, Henry Moore. British customs officials, however, refused to admit the works of this stellar constellation as "art." The director of the Tate Gallery was called in to decide whether these sculptures were simply metal, wood and stone or whether they were truly works of art. His refusal to declare them "art" caused such a storm that the case was brought up in the House of Commons. Peggy won the debate.

Guggenheim Jeune in London was not popular with her rich uncle Solomon Guggenheim in New York. He was being advised by a dogmatic German baroness, Hilla Rebay, to establish a museum of nonobjective art. Hilla thought Peggy was cheapening the Guggenheim name to make a profit. When Peggy tried to sell a Kandinsky to her uncle, Rebay replied: "It is extremely distasteful at this moment, when the name of Guggenheim stands for an ideal in art, to see it used for commerce so as to give the wrong impression. . . ."

Peggy was also having second thoughts. Her London gallery appeared to be a successful venture, but was in fact unprofitable. "I felt that if I was losing money, I might as well lose a lot more and do something worthwhile." So she approached a leading English authority on modern art, the writer, poet and critic Herbert Read, and gave him a five-year contract to direct a new London museum of modern art. Peggy was apparently oblivious to the threatening clouds of war, as she hoped to open her London MOMA in the fall of 1939.

In August of that year, she blithely went to Paris to borrow works from various friends for the opening of her museum. While there, it soon became apparent that war would be declared. With regret, she abandoned the museum. Instead, she decided that with the $40,000 which she had planned to spend on it she would start buying an art collection. She put herself on a regime to "buy a picture a day." It was both a timing of genius and an incredible stroke of luck.

Peggy Guggenheim was always known in the art world as someone looking for a bargain. And in Paris in 1939-40 there were bargains all around. It was the perfect "Guggenheim market": all sellers and no buyers. With Marcel Duchamp and the dealer Howard

American free-lance author Yorick Blumenfeld now lives in Cambridge, England. A former writer for Newsweek, *he writes both fiction and articles.*

Peggy married artist Max Ernst in 1941. They pose against backdrop of his work in her New York gallery.

She collected works by French Surrealist painter Yves Tanguy, and was photographed with him in 1938.

Man Ray photographed Peggy in Paris c. 1924. Dress was by Paul Poiret, the headdress by Vera Stravinsky.

Putzel to advise her, she acquired works like Brancusi's *Maiastra* for only $1,000. The day Hitler conquered Norway, she walked into Léger's studio and bought *Men in the City* for another $1,000. The next day, she bought a splendid Man Ray. The approaching fall of France did not stop her. In the few months preceding June 1940 she acquired about 50 works.

Finally she had to flee Paris, just three days before the Germans entered the city. But this was not before she had bought *Voice of Space* (p. 64) by René Magritte. Peggy's recollection of the transaction was that she was visiting an art shipper when Magritte appeared with a picture under his arm. He offered to sell her the painting on the spot and she accepted, paying cash.

As an American, Peggy did not have much trouble ultimately taking her family and her art collection out of France and to the United States. She arrived in New York in 1941 in the company of the Surrealist painter Max Ernst, whose work she had been collecting and whom she would shortly marry. Peggy, it must be acknowledged, often appreciated an artist before she appreciated his work.

Her ambitious program of acquisition continued in New York. She decided to launch a museum on 57th Street, which she called Art of This Century. She finally decided it also would be a gallery where she could sell paintings for Max Ernst and for young unknown American artists. At the opening, Peggy wore one

WELL, THE GLENLIVET Scotch whisky does cost around $20.00. Which some say is a small price to pay for a Scotch which has been made in the same unique way since 1747. A 12-year-old single malt Scotch with a smoothness and unique character that is unsurpassed to this day. All of which could explain why people are so strangely possessive about The Glenlivet. Which is a pity. You might just have to buy a bottle of your own.

THE GLENLIVET. JUST SLIGHTLY OUT OF REACH.

La Baignade of 1937, oil, pastel and crayon, is one of five Picassos in Peggy's collection.

Giorgio de Chirico's *The Red Tower* is from his most important period. He painted it in 1913.

A seminal modernist, Vasily Kandinsky painted *Landscape with Red Spots No. 2* in 1913.

Peggy was early supporter of Jackson Pollock. This is his *Direction*, dated October 1945.

Surrealist Magritte's mysterious floating spheres are titled *Voice of Space*, dated 1931.

earring by Yves Tanguy, the Surrealist, and another by Alexander Calder. She explained to her guests that this showed her neutrality in the conflict between the often hostile schools of Abstractionism and Surrealism. Ernst, who was shortly to divorce her, told Peggy: "You are a lost girl." In terms of espousing any one artistic current, this was probably a correct appraisal, as Peggy embraced all of art.

Soon after opening her gallery, she appointed a jury consisting of Marcel Duchamp, Piet Mondrian, Howard Putzel, plus the top three experts at the Museum of Modern Art and herself, to select 40 paintings from among the younger generation of American artists. The selection of the jury showed Peggy's shrewdness. The stars who emerged from that first show were Jackson Pollock, Robert Motherwell and William Baziotes. Later she was to give first one-man shows to those three, Clyfford Still, Mark Rothko and others.

Art of This Century soon became a focus for the new Abstract Expressionist movement. Lee Krasner, Jackson Pollock's wife and a notable painter herself, wrote that "Peggy's achievement should not be underestimated. . . . There was nowhere else in New York where one could expect an open-minded reaction." Peggy signed up Pollock to a contract of $150 per month in 1943. If less than $2,700 worth of his paintings were sold, Peggy was to select works to make up the difference. In '45, she signed him up for a further two-year contract with a stipend of $300 a month. In return, his entire output had to move through her gallery.

The details of this contract and other aspects of Peggy's more idiosyncratic acquisitions have been painstakingly researched by the art historian Angelica Zander Rudenstine in her exhaustive 844-page catalog of the Peggy Guggenheim Collection published last year. This is truly an "essential reference work for all those interested in the field of 20th-century art."

A bargain palace on the Grand Canal

By the end of World War II, Peggy was eager to return to Europe. She decided to make Venice, with its floating sense of time and its free spirit, her future home. "I had always loved it more than any place on earth and felt I would be happy alone there. I set about trying to find a palace that would house my collection and and provide a garden for my dogs," she wrote.

In the spring of 1949, as the Cold War offered another splendid opportunity for panic buying, she acquired an unfinished palace on the Grand Canal for a bargain $80,000. Because of its incomplete condition (one story only), it had the advantage of not being regarded as a national monument. Moreover, it had a large garden with linden trees, plantains and pines in back and in front a terrace on the Grand Canal. The Palazzo Venier dei Leoni, she realized, would make a superb showcase for her art collection. The palace had been started in 1749 by architect Lorenzo Boschetti. The last male of the famous Venier family died before it was finished.

Peggy enjoyed the idea of living like a duchess in an ivy-clad palace-museum on the Grand Canal. It was near the Palazzo Barbaro, where Isabella Stewart Gardner had lived and where Peggy's favorite author, Henry James, had stayed to write "The Great Condition."

Many of the Venetian aristocracy were not thrilled by Peggy's plans to fill the palace with "modern art." For these blue bloods, real art had stopped with Guardi and Canaletto in the 18th century. Giuseppe Santomaso, a painter and neighbor, explained that to Venetians Peggy represented everything in the contemporary world of art which they rejected.

A shock for the aristocracy

The fact that she had exhibited her collection at the XXIVth Biennale in 1948 did not change the aristocracy's reaction to her. Peggy, however, was excited to see the name Guggenheim appear on the maps in the Public Gardens next to those of Great Britain, France, Holland and other national pavilions.

While she was remodeling her palazzo between 1949 and 1951, her collection was shown at the Stedelijk Museum in Amsterdam, the Palais des Beaux-Arts in Brussels and in the Zurich Kunsthaus. Then in the spring of 1951 she opened the collection to the public for three afternoons a week. She maintained this practice during the Venice "season," often selling catalogs herself, until the time of her death.

If she outraged the Venetian aristocracy by her free and somewhat surrealist spirit, the ordinary people appreciated her eccentricity. Besides turning her maids into "curators," she also taught her two gondoliers to be picture hangers. She liked to chat with workers of the district, and she dressed with artistic extravagance. "The more exaggerated one's clothes, the more suitable they appear in this city," she wrote.

Most shocking to the traditionalists, perhaps, was the sculpture by Marino Marini named *The Angel of the City* (p. 58). This was placed in front of her doorsteps on the Grand Canal. It is a statue of a horse and rider, whose arms are spread open in ecstasy and whose phallus is in full metallic erection. Marini had the bronze phallus cast separately, so that it could be removed at the owner's discretion. Santomaso, who was by then a professor at the Accademia, recounts that after one party the phallus was missing. It never turned up, so Peggy asked Marini to make her another. At first Marini refused, saying, "I no longer have the model." Eventually he replaced it.

As the years passed, Peggy's collection continued to grow. She transformed her laundry in the basement into a gallery. One by one many of the other rooms followed suit. When all the spatial possibilities of the palazzo were exhausted, she decided to build a pavilion in her garden.

Gradually, in the '60s, she began to consider what would happen to the collection after her lifetime. There were three main contenders, the city of Venice, London's Tate Gallery and the Guggenheim Museum in New York, all three of which in earlier days disparaged her taste and art.

In their efforts to secure the collection and the palace, the Venetians made her an honorary citizen in 1962. Then, in 1967, she was made a *commendatore* of the Italian Republic. Santomaso advised her: "You will be immortal if you leave this collection to Venice." However, the city lost its chance when, under Italian law, the authorities insisted that she had to pay a tax as the donor. Peggy was outraged at the idea and later, on her 80th birthday, publicly declared that the Venetians had been very "stupid" about this.

London's Tate Gallery lost out, the apocryphal tale has it, because her pet terriers were not allowed into the country when she was to sign the draft documents. British quarantine laws prohibited their entry. But Professor Santomaso claims he convinced Peggy to keep the collection in Venice.

Messer, on the other hand, diplomatically and persistently pursued her. With strategic insight, he invited her to show her collection at her uncle's museum in New York in 1969. It was on that occasion that she resolved to donate her palace and its contents to the Guggenheim Foundation. "In the end," recalls Messer, "it was a family matter." Harry Guggenheim, her cousin and chairman of the board of the Foundation, was particularly pleased about the reconciliation and the amalgamation of these two important collections.

Under the terms of the agreement, worked out by Messer and Peter Lawson-Johnston, president of the Foundation, the works of art were to remain with Peggy until she died. After her death, the Solomon Guggenheim Foundation would assume effective control of and responsibility for the palazzo and its contents. The collection would be kept in Venice and would remain on view for six months of the year. In her own hand Peggy wrote a postscript: "If Venice sinks, the Collection should be preserved somewhere in the vicinity of Venice."

When Messer took over the estate in December 1979, his most immediate task was to physically safeguard the collection. The changes over the next few years were massive: air conditioning was introduced throughout, a proper security system was installed, and a reinforced concrete storage area was built in which Peggy's collection could safely be stored when not exhibited. In sum, a private palace was converted into a modern museum with quality lighting and humidity-control systems.

The formerly wild garden, which measures about 1,500 square yards, was also transformed. The new sculpture garden has flagstones laid out according to an 18th-century geometric pattern. One of the least disturbed areas of the garden is the red-brick wall to the rear where, surrounded by daisies, rest Peggy's ashes. Next to her plaque is another engraved with the names of "my beloved babies," the pet terriers that had lived with her in Venice.

In his basement-level office in the palazzo-museum, collection administrator Philip Rylands commented that the Italians were filled with admiration for the professional basis on which the museum was being run. For example, interns, who stay up to three months each, are guarding the rooms, selling tickets, catalogs and postcards as well as doing other minor curatorial jobs. Because it is privately owned, the museum can stay open for longer hours than any other museum in Italy and there are no strikes and no closures. There are now more than 180,000 visitors a year.

Messer feels that Peggy Guggenheim's great accomplishment as a collector "was to gather, with much intuitive perception and freedom from dogmatic assumptions, works that reveal the wide range and ultimate unity of modern art." Messer thought of Peggy as "a lion woman," proud and imperious. Her collection in Venice is now a living monument, a testimonial to her acumen and sensibility.

In Fortuny gown, beloved dogs by her side, Peggy poses in her Venetian garden on massive marble throne.

By William H. MacLeish

The brotherhood that guides big ships to the Big Apple

Skillful members of an ancient guild, these expert pilots mastermind New York Harbor's comings and goings afloat

Richard Kalvar/Magnum Photos Inc.

Even the Tall Ships that turn up for Miss Liberty's July 4th birthday will require a pilot's help.

Captain J. T. Cahill faces a wall, dull red, more than 750 feet long and 40 high. It moves through the sea at a speed that makes a tailrace of the water at its foot.

The motorboat man sets his launch's bow neatly against the wall. Cahill, natty in sport coat and slacks, zips up his parka, adjusts his Irish cap and steps from the cabin into a cold wind strong enough to hurt. He moves toward the Jacob's ladder, its ropes and metal rungs slick with spray. He waits for the bow of the launch to hang just right, then springs.

Up ten feet. Swing off onto a gangway. Up the ringing steel incline to the deck. Follow the mate through windy alleys between stacks of containers, each the size of a truck trailer, to a cliff of superstucture. Through a door, into an elevator, up eight more decks. Up a flight of carpeted stairs and Cahill stands in a silent space the size of a barn, barely discernible in the reddish pall of the night lights. For the next two hours this will be his workplace, the bridge of the *Barber Taif*, a new roll-on, roll-off container ship carrying construction equipment, fireworks and yachts from the Far East to the Port of New York.

Coming into any big city from the sea at night is a mystery. Coming into New York for the first time is hallucinogenic. The great bridges throw necklaces of lights across rivers and bays. The parkways are belts of light. Behind and above, the jeweled stelae of Manhattan, the slabs of the World Trade Center rise at its tip like God's pilings.

Clinging to a supertanker's sheer, steel sides on a shaky Jacob's ladder is regular ordeal for pilots.

Captain to captain, Cahill greets the master of the *Barber Taif* and steps close to the helmsman. The wheel of this great ship, set in an endless console of winking electronics, is smaller than the wheel of a go-cart. Cahill checks speed and bearing and looks out on the unbelievable harborscape before him. "Three-fifteen," he says softly. "Three-fifteen," says the helmsman, with only a trace of his native Norwegian, and gives his minuscule instrument a nudge.

Jack Cahill has seen it all a thousand times. He is 57 and for the past 37 years has been part of a reclusive and extraordinary group of men known formally as the United New York and New Jersey Sandy Hook Pilots Benevolent Associations. This is what he does for a living, guiding big ships in and out of the trickiest, busiest ports in the world—up and down twists of channels, over shifting bars, all of which conspire to outfox the inexperienced. That right-angled confluence of tide and current in the East River is not called Hell Gate for nothing.

Normally, Cahill and the 116 other Sandy Hook pi-

Photographs by Enrico Ferorelli/Dot

The pilots of New York Harbor

Busy, intricate passages that pilots navigate include Ambrose Channel, the Narrows and Kill Van Kull.

lots work unobserved by all but a few fellow seamen. But this Fourth of July things will be different. New York will be different, too, as it celebrates the 100th birthday of its Lady of the Lamp, the Statue of Liberty. Upward of 40,000 pleasure craft and other vessels will be jammed along a slim lane of water running from the Narrows at the entrance to the harbor on up the Hudson River to the George Washington Bridge. Naval vessels from around the world will be anchored along that lane, firing salutes as the battleship *Iowa*, with President Reagan scheduled to be on board, glides up the parade route to take the review.

The tall ships, those relics of the age of sail that graced New York's Bicentennial bash ten years ago (SMITHSONIAN, September 1976) will be there, too, to bring oohs and aahs from millions of throats. And on each of those big hulls, look for a well-dressed man standing beside the wheel. Every one of the Sandy Hook pilots who can be on duty will be shepherding the tall ships gratis and the Navy at a reduced rate.

Cahill and his colleagues take their name from a low peninsula that juts out from the New Jersey shore into New York's Lower Bay (see map at left). Their predecessors did work out of the shelter of Sandy Hook. The earliest, a handful of men, were commissioned in 1694 by the Colonial assembly of New York "to attend constantly at some convenient place" not far from the Hook, "the boat to give aid and assistance to vessels bound for this port."

Competition of the fiercest kind obtained up through the 19th century. Pilots would band together in groups of half a dozen or so, build a boat and go hunting customers. New York pilot boats, the Blue Peter flag of their profession snapping at the masthead, took to ranging as far as Nova Scotia and Bermuda, looking to put one of their own people on board an incoming merchantman before someone else got to her. Losses were stiff, particularly with the advent of iron-hulled transoceanic steamers big and clumsy enough to run down the little wooden schooners laying to to send over a pilot in a pulling (oared) boat.

A blizzard changed all that

But on March 11 and 12, 1888, a blizzard of hurricane strength roared in and sank nine boats with 17 pilots on board. The State of New York took alarm. Regulation of pilotage had been a state function since the beginning of the Republic, and the commissioners of pilots now told their charges to stop cutthroating and start cooperating—or else. In 1895, the New York and New Jersey pilots associations merged, pooled their money and built the steam pilot boat *New York*, described by the press as "a cutter under water, a lifeboat above water, and a . . . yacht inside." Instead of

Pilot launch *West Bank*, with apprentice Bill Hodgins at helm, ferries pilot from job on big car freighter.

looking for customers, the *New York* steamed back and forth just beyond the harbor bar in the Lower Bay, waiting for customers to come to it for a pilot.

Today, the merged associations have a new headquarters—three stories of offices and classrooms plus maintenance and dispatching facilities—hidden behind a line of warehouses in the Rosebank section of Staten Island. Pilots periodically check the big locator board in the dispatchers' office to see how close they are to being "on turn" to take an outbound vessel down past Sandy Hook to the sea; from there they will transfer by launch over to the pilot boat on station near the Ambrose Light, there to await their turn to bring an inbounder to anchorage or dock.

The view for the men waiting at Rosebank is of the sweeping Verrazano-Narrows Bridge to starboard, the tip of Manhattan to port and Brooklyn dead ahead beyond the waters of the Narrows. Below them, at a heavy timber pier, is a 50-foot motor launch, one of five successors to the 16-foot pulling boats, also known as yawls, that rowed pilots to and from their assignments. It bobs just aft of a 64-foot service boat, the *Sandy Hook*. The far side of the pier handles the big pilot boats, the *New York* (successor to the steamboat) and the older *New Jersey* (once a luxury yacht) as they come in from alternating periods at sea.

Captain Cornelius Keating remembers the yawls. They were still in use, in case of motorboat breakdowns or other emergencies, when he came into the program 38 years ago. "A guy would run into the fo'c'sle yelling 'Up for the yawl!' " he says, "and we would jump out of our bunks and start rowing." The presidencies of the two associations are elective, one-year positions, and "Neil" Keating has been the head of the New York association, the larger of the two, for three-and-a-half years now. He is heavyset, a pleasant man with a reserve about him that grows when he talks to strangers about the most unusual aspect of his organization—the guild structure with its emphasis on family ties. Keating clearly is experienced in dealing with the state legislature, which sets pilotage rates, and with steamship company executives who pay them—not always with a smile. But, like other pilots, he has learned to be skittish of publicity.

Stories in the press, Keating says, have made the pilots out to be overpaid and nepotistic. "People," he says, "see how much we charge for a ship and they feel the pilot's getting it. No. It goes to the whole operation." That includes the fleet plus shore facilities, wages of union crewmen, medical benefits and pay for about 23 apprentices, plus interest on loans. When all that is paid out, the pilots get their share.

Keating heads an association of private contractors, each responsible for his own actions. "It's a convenient banding together," he tells me. One convenience is that a potential litigant can sue only the individual and not the collective.

Waiting for an assignment, pilot Robert Carl catches 40 winks in ample lounge of pilot boat *New Jersey*.

Bound up the Hudson, Neil Keating jr. (in pinstripe) takes fruit ship *Pocantico* past World Trade Center.

Like most guilds in history, the craft is passed on through generations. Each pilot has the right to nominate one candidate at a time for apprenticeship. He cannot nominate again until his applicant has gone through the more than 14 years of training required to become a pilot licensed to guide the largest ships afloat. So he tends to choose from among youngsters he knows best. Often, though less often than in the past, a father chooses a son, an uncle a nephew. Keating is one of the exceptions—his father was a New York City detective—but he supports the system. "It can get very dangerous out on station," he says. "If we had to hire outside help to run the launches and the big boats, you couldn't get them out there in a blow. But if you're looking forward to being a pilot, if you're hungry enough for it, you'll go."

The young men in the wheelhouse of the *Sandy Hook*, taking a crew change to the *New York* 15 miles out on the pilot station, are among the hungry. The man at the wheel, George Kissenberth of the New

Still not a full pilot, he gets coaching from pilot Thomas Barry. In foreground, *Pocantico*'s helmsman.

Jersey Pilots, with seven-and-a-half years in the program, is just about through his apprenticeship. In a short while he'll be a deputy pilot and spend the next seven years working his way up through classifications defined by increasing ship draft and gross tonnage, until he has proved himself aboard vessels of more than 35,000 tons—large but no giants in a world of supertankers and superfreighters. If he gets that far (most who survive the first three-and-a-half years of apprenticeship do), he can call himself a "full-branch" pilot.

John Oldmixon, 30, has nearly seven years in the program. He is captain of the *New York* and highly regarded, but has not forgotten the beginnings of his training. "All you do is study," he says. "Meantime, you're working, 12 hours a day, six days on and three days off."

An apprentice candidate is known as a "spare boy," even though he may have time at sea and be just under the maximum age of 26. He may be a PhD (a few have been, though only two years of college is required for admission to the program), but he can be fired by any pilot, at any time, for any reason. He gets the low jobs: chipping paint, cleaning wheelhouse windows that salt up. He starts his sea experience aboard the motorboat, the launch, learning how to follow the pilot boat in good weather as she drifts downwind on station and then runs up again. In 18 months he will sit for his Coast Guard motorboat-operator's license.

"You get a month off to study"

Somewhere near the end of those terrible 42 months, he sits for his federal license—master and pilot first class—steps not essential to state pilothood but much valued by the Sandy Hook people because it enables those who pass the test to handle naval and other vessels. "You get a month off to study for the federal tests," John Oldmixon says, as the *Sandy Hook* passes under the span of the Verrazano Bridge more than 200 feet above his head. "Then you go to the Coast Guard and sit there for four or five days. One of the things they do is quiz you on one area of the harbor, the Lower Bay. You draw a chart showing depth lines, buoys, aids to navigation, obstructions. Scares you to death when you go up there."

Right around that time, candidate apprentices who haven't quit or been fired hang up a petition asking permission to "get their name down" to register with one of the two state boards of commissioners. If enough pilots sign his paper, the petitioner passes on to full apprenticeship—four more years of complex training, which tests his knowledge of one waterway after another—from the Lower Bay up to Yonkers, from the Kills behind Staten Island around to the East River past Hell Gate and into Long Island Sound.

The apprentice will be lucky if he is making $14,000 at the end of his four years. But the man who gets this far is, in the words of a seasoned pilot, "kind of a ward of the state: he can't be fired without cause, and the commissioners have to approve."

Sandy Hook begins to feel the sea, and one of the crew sitting in the passenger cabin aft complains about his stomach. Fifteen minutes more and we sight the *New York*, the words PILOT No.1 showing beige on her black hull. Clipper-bowed, twin-stacked, she is a real sea keeper, a comfort for the pilots who must

The demanding piloting trade is often followed by fathers and sons like Neil Keating jr. (above at ship's gyrocompass) and Keating senior, a 38-year veteran.

spend a couple of days or more on board between outbounder and inbounder.

We round her stern, come alongside and go aboard, each of us in turn grabbing for the thick "man rope" to steady that last tricky step. Visibility in all directions from the bridge was the pilots' objective when they designed the *New York*, and they came as close as you can to still have enough structural strength to take the punishment of a heavy gale or worse. John Oldmixon talks about the remains of hurricane Juan last fall. "What you do in that kind of weather is keep the motorboat in your lee as long as you can," he says. "We put the launch astern and rode out to sea, heading into the wind, until we had inbound traffic to service." A pilot almost died in that storm. He was coming down the ladder of an outbounder, transferring over to the *New York*, and the motorboat came up and hit him. "A pilot," John says, "has to have quick feet."

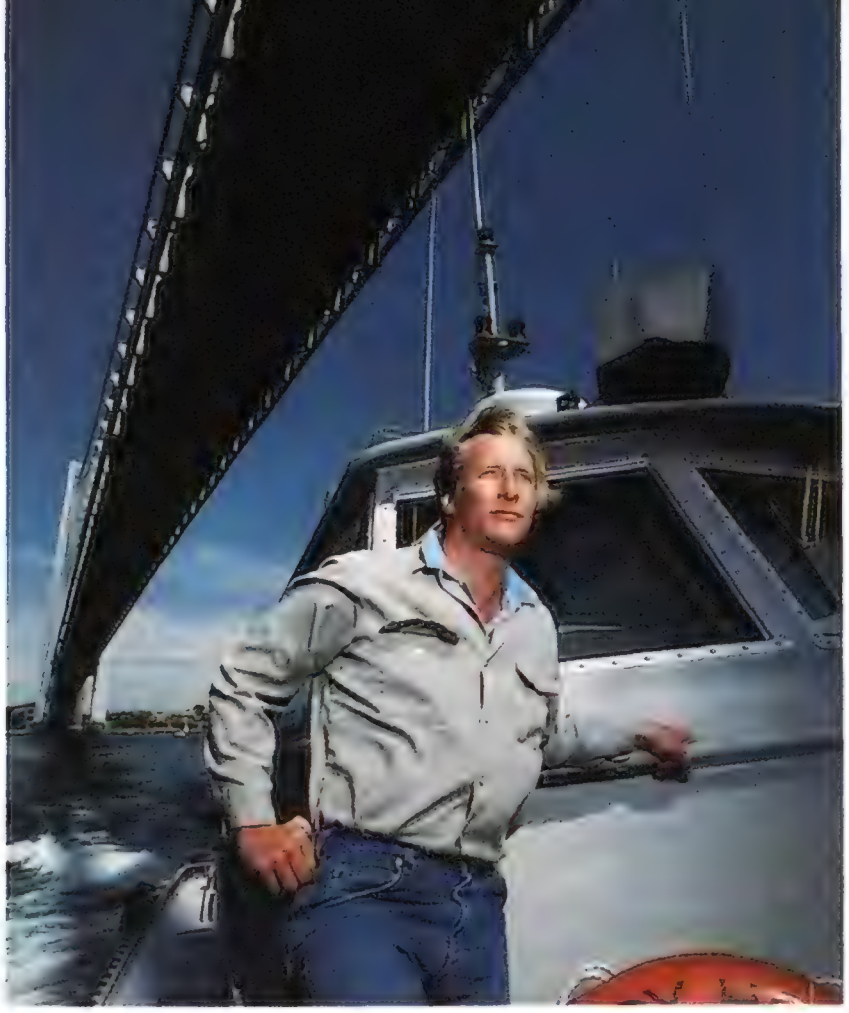
So must the motorboat men. "When the seas are up," one tells me, "all you see through your windows is green." One launch took a 360-degree roll some years back. No damage to the boat, but an apprentice aboard quit shortly thereafter.

The new crew settles in quickly—captain, mate, deckhands, stewards, engineer. John takes up the rhythm of his vigil, pacing, servicing the radios, scanning the horizon with binoculars, watching the radar sweep green images on its screen. He performs a kind of ballet: a twist of the wheel, two steps to the radio, a pivot to the clutch. All to keep the *New York* positioned against the push of wind and current—her station is in a triangle bounded by Ambrose Light, rising close to starboard like a misplaced oil rig, and two buoys. "You have to stay high up on the line going southeast from the light," John says. "The idea is not to chase around after your customers." The *New York* can make 14 knots, but the limiting factor is the launch, which can go about half that.

Radio chatter here is serious talk, nothing like the maundering soliloquies and amiable obscenities out on the fishing grounds—or among truckers and tourists on the road. There is too much harbor traffic. Inbound vessels contact *New York* with estimated times of arrival. John is polite in dealing with masters from all over the world. He asks for the ship's maximum draft, asks that the Jacob's ladder be positioned so that in turning to make a lee for the launch and pilot, the vessel will not be heading into heavy traffic. He signs off with "Pilot on arrival, sir."

Another apprentice reports to the bridge, this one with "a year as of ten minutes ago" in the program. John puts him on the radio and he is obviously good at it. Scott Ireland is his name, but Oldmixon occasionally calls him Snugs. Nicknames are common among apprentices and seamen on the pilot boat; the pilots—the masters of the apprentice's fate—are always Mister or Captain. Snugs got his name because he likes to work the launch so close in when putting on or taking off a pilot that once he bent his rail like a piece of spaghetti on a ship's gangway.

Ireland is only a little past what the old sailors called Johnny Raw, the new man. An apprentice sneaks in and calls him on a radio a few steps down from the bridge. Snugs picks up on the trick, but goes along.



Apprentice John Oldmixon rides *Sandy Hook* under the Verrazano Bridge. Above, apprentice Scott Ireland checks his position from aboard launch *West Bank*.

"Your position, sir?" A pause. "The Atlantic Ocean." General laughter and hooting.

"They put it to you the whole time," Snugs says, grinning. But he knew what was in store, from his father and grandfather—both Sandy Hook pilots—and an uncle working the Hudson River. Those of his colleagues who couldn't or didn't want to stand the guff and gaff were usually the "outsiders," he says, not those of the blood.

Lunch is tasty. Good food is traditional on these boats, as are the pilots' separate mess and the huge and airy lounge astern where deputies and full-branch men snooze on couches or sit reading newspapers in easy chairs screwed to the deck. A floating men's club for the graduates of one of the toughest and longest training programs in any profession. Mark Twain, who practiced the trade on the Mississippi, wrote of the "true pilot" that "his pride in his occupation surpasses the pride of kings." The Sandy Hook men this early afternoon are more well-fed than regal, but it is fairly clear that they consider themselves favorably, eminences waiting high in their triangle for the commerce of the world to come to them.

A senior man nudges another. "Let's retire," he says. His friend laughs and shakes his head. It's no secret that the pilots' roster is shrinking as ships get bigger and fewer. Attrition has been working well. Captain Bill Sherwood, Sandy Hook's superintendent, told me a couple of days ago that winters have a way of finishing a lot of pilots. "A man gets out in foul weather and takes a look around and says, 'What am I doing here?' The great leveler," he said, "is when you have to go up the Jacob's ladder."

That is the one item of equipment that has withstood the onslaught of improved technology. The Jacob's ladder of today is still recognizable from the newspaper account of 1901 concerning the death of two pilots from heart attacks after they climbed the equivalent of five storys to the decks of the new ocean liners: "Imagine a ladder of flapping, wriggling rope" which can "not only sag from one side to another but writhe like a serpent with indigestion."

The afternoon sleeps. The "due list" on the bridge, the teletyped messages from headquarters listing inbound vessels to be serviced, shows only one arrival. Rush hour for inbounders is usually before dawn, as vessels stack up waiting to get to their locks with a full day to unload and a minimal chance of having to pay the longshoremen overtime. Outbounders drop down in the hours after supper. Either way, the light for piloting is apt to be poor.

Neil Keating's son, Neil jr., comes up to the bridge. He has finished all but the last phase of his apprenticeship and is now "riding ships," going along with senior pilots to get the feel of the traffic he will soon handle by himself. The process takes nine months, and in that time he will ride at least 225 vessels, learning by doing how helms answer; how to berth and unberth; the use of engine-room signals, compasses, radar and other electronics. His father explained the training to me

William MacLeish is at work on a book about the Gulf Stream. He last wrote for SMITHSONIAN *on Georges Bank fishermen in the May 1985 issue.*

Apprentice Joe Dugan steadies Jacob's ladder as Captain Ed Sweeney starts up side of inbound ship.

earlier. "The pilot will give the apprentice the ship," he said. "The pilot stands next to him, using what we call the elbow method, talking him along. If he's too far over, or getting into a little trouble, the pilot will say 'I've got it,' and start giving commands."

Neil jr. will also get a master class in the effects of wind and current on huge ships carrying so much in the way of containers and deck cargo that they make leeway like an empty canoe adrift. He will learn how to line up familiar landmarks—Hoffman's Island with that notch along the spine of Staten Island, or a tall oil tank with a condo—and so bring himself in.

Neil already knows about the hazards of buoys carried off position by storms. Ten years ago his father boarded an oil tanker and took her in through an ugly easterly gale. "I went between the buoys at the channel entrance," the senior Keating told me back in Rosebank. "The channel was about 800 feet wide and the buoys had shifted 800 feet." The tanker grounded and her master was afraid she would explode. "We evacuated everybody except for the captain, the chief engineer and myself, and we were on board for about 24 hours before the wind shifted to nor'west and knocked the seas down and we were able to get off in the launch." Keating told his story as if describing a game of hearts. Smiling, he added, "There was no spill."

The ritual of dropping the pilot

Well into the night I hitch a ride with Scott Ireland aboard his motorboat, the *Ambrose*. Outbounders are all around us. It is impossible for the untrained eye to distinguish one running light from another. Ireland has no such trouble. He circles out, snugs himself under a ladder and holds steady while a dark figure appears on the top rungs high above us and clambers down, exquisitely timing his last move so that he steps out on *Ambrose* as if he were walking across his living-room rug.

We circle and take off another man and I think of the ritual of "dropping the pilot," celebrated in cartoons and fiction of an earlier time—that decisive moment when a ship cuts all ties with the land and takes her departure. Weather, of course, knows nothing of ritual. Each year a few pilots take an unintended sea voyage, usually nothing like the transoceanic ones that took place in the days of sail and steam, when impromptu trips from New York to, say, Liverpool were not uncommon.

We run back to the *New York*, her white-over-red masthead lights marking her for the traffic. A dredge is working the edge of the harbor's central artery, Ambrose Channel, which was deepened to 45 feet in the 1930s for *Queen Mary* and *Queen Elizabeth*, the luxury liners of a more civilized age. But the silts of the

Pilot aboard, inbound supertanker *Niels Maersk* eases toward New York at night. The necklaces of light ahead mark 229-foot-high Verrazano Bridge. Beyond are lights of Staten Island, Bayonne, Brooklyn.

Hudson River have never recognized such tampering.

By 4 the next morning the bridge is busy. Information on the names, drafts, arrival times of ships pours from two radios. John Scudlo, the mate, checks his due list, assigns pilots, sends a fellow apprentice on watch to wake up pilots "on turn." A big bulk carrier to starboard won't answer its radio and we are heading for it to put a pilot aboard and get it moving.

"Hello, hello, hello, hello." An Oriental voice, uncertain. Scudlo tries three times without success to get him to pass astern of us. Another call, this time in a heavy Spanish accent, insisting his ship's draft is 13 feet. It is important to know a vessel's maximum draft, particularly a very large vessel. Many of those draw enough water so that they can only proceed into port on a high tide or, to be precise, a bit after high tide so that the ebb current can brake the ship's forward motion and improve its handling. Very politely, Scudlo gets his man to repeat the number until it comes out right: 30. He doesn't have to worry about the tide with this one; only drafts more than 40 feet present that problem.

However spoken, English has become the universal language of international shipping. Yet the once-impressive ranking of the world's most powerful English-speaking nation among the bluewater trading fleets has moved the other way. "There are fewer American ships working these days," Tom McGovern, the red-headed president of the Sandy Hook's New Jersey chapter, told me as I was getting ready to go out on station. "You look at the number of companies that have already folded." Neil Keating, sitting next to his counterpart, agreed. "It's a shame, a real shame. The Americans are great seamen."

Oleander, Lloyd Bermuda, Gone With the Wind, Ming Glory, all of them are out there waiting to berth or move on to their assigned slots in one of the big anchorages in the Lower Bay. Scudlo keeps them happy, runs his own ship, gets his pilots up and out. "Can you believe I'm doing this for four dollars an hour?" he asks, and laughs. Why do it? "Because some day I'll be a pilot and make good money."

Good, yes, but not exorbitant, considering the service rendered and the risks involved. Sandy Hook pilots do not like to tell what they make, arguing that when they do the figures are invariably misrepre-

sented. Sources back on Staten Island allow that in the past few years a full-branch man might make something on the order of $70,000 and a fledgling deputy pilot half that. But because each pilot is a private contractor, he must pay for his own medical and other insurance and retirement. On an offshore oil rig, say, men with commensurate responsibilities make at least that, and their company pays for their benefits.

Late in the afternoon the time comes to ride an inbounder, the *Barber Taif.* Jack Cahill puts on his tweed cap, nods to me and says, with a touch of Dublin theatricality: "Shall we?"

We do. And when Scott Ireland puts the *Ambrose* in position under that great red lee, Cahill advises me to have a care with the Jacob's ladder. "When you go up," he tells me, "use the side ropes. You don't want to have *both* hands on a rung if it should pull loose." That said, he ascends into the night.

"Wait," says the deckhand. "Let him get clear before you go up." I wait, then lurch, scrabble and follow Cahill up to his job.

Now, with the wind settling in behind us, we are making 16 knots, heading for what Sandy Hook pilots call the Northway, the broad run up the bay. *Barber Taif* is bound for the Port Elizabeth Container Terminal. From there, she will go to Mobile and pick up paper products for Europe, then on to Australia and back to the Far East.

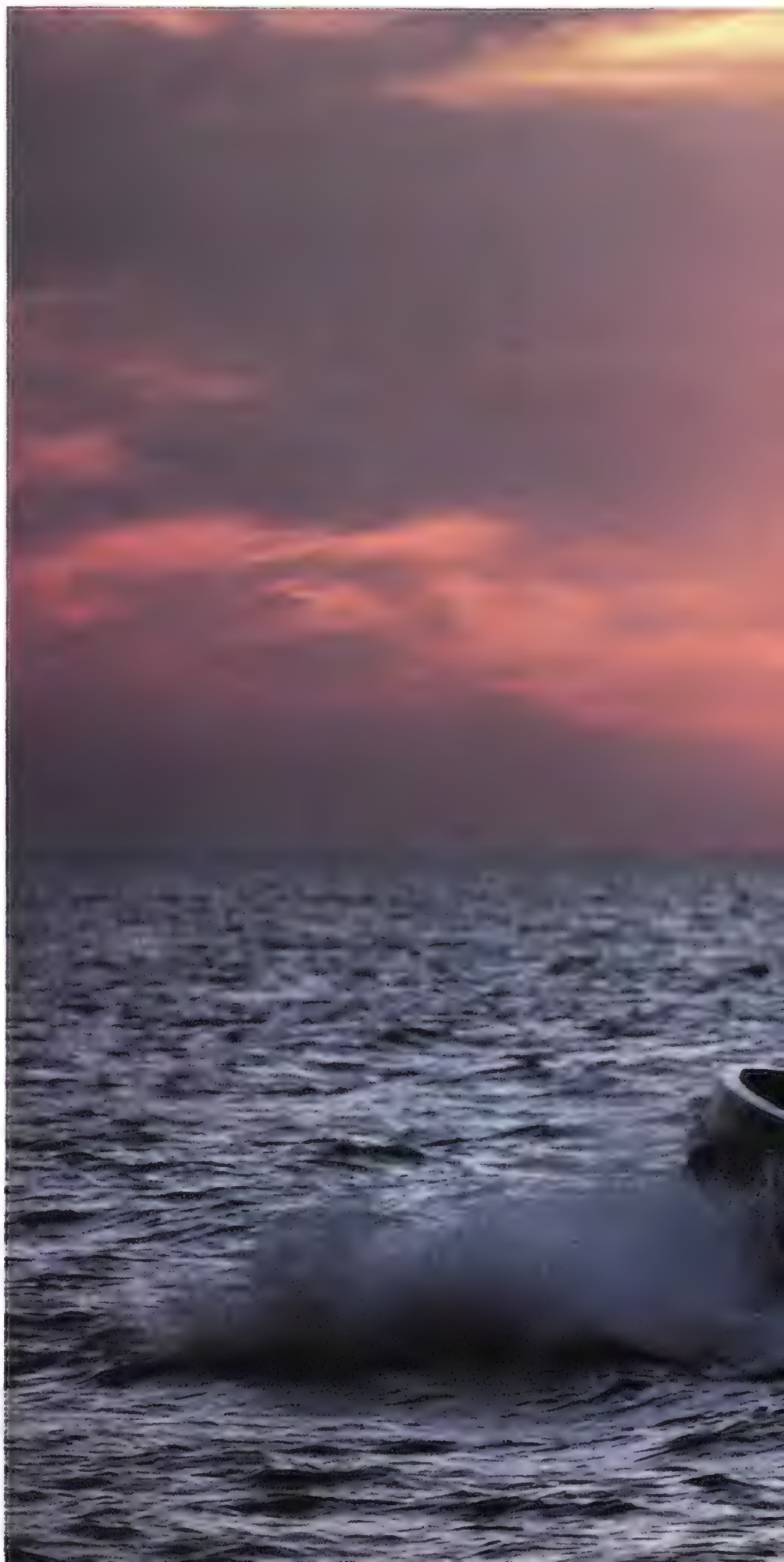
"Port ten," says Cahill, and the helmsman echoes him. "Ease to five." We are well up in the Lower Bay, ready to make a turn to port into the Kill Van Kull, the narrow, crowded channel winding between Staten Island and Bayonne, on the Jersey shore.

"Fast ship and a fair tide, you get a quick ride," Cahill says to the *Barber Taif*'s master, tall and blond, in full uniform. And to the mate, "Half ahead, please." The commands come faster, now. After each one, 30 seconds and more go by before *Barber Taif*, 31,931 tons and 40 feet deep in the water, answers the helm. She is known as a sweet-steering ship—for her size.

We go to dead slow in the narrows of the Kill Van Kull. Piers and ships to either side. Tugs and barges heading down toward us. We creep past a tanker pumping oil into a barge alongside, trying not to make a surge that could lead to a spill. Neil Keating had told me that pilots think 15 minutes ahead. I can sense Cahill doing just that, figuring what the wind, current and traffic will be doing a couple of miles ahead. At the same time he keeps on course through the here and now, heading straight for an oncoming ship and falling off to slide by with minimum course change.

Cahill picks out the lights of a McAllister tug from among the Broadway of moving lights on the Kill. In a few minutes the tug company's pilot stands on the bridge. Cahill, who often as not berths his vessels himself, surrenders the con and the young tug pilot takes *Barber Taif* under the Bayonne Bridge. The ship had lowered its radio mast earlier, but even so we ghost under the span, 150 feet above mean high water, with what seems only a foot or two to spare.

The wind has picked up and the tug pilot has his



On a calm evening the sturdy pilot launch *Ambrose* plies waters of New York Harbor just at sunset.

hands full getting the ship turned full to starboard. Cahill follows every move. With bow and stern thrusters going to provide lateral motion, with a tug straining at the bow until *Barber Taif* shudders, we slowly ease astern, under huge gantry cranes that will unload the containers the next morning and set them down beside hundreds of acres of their fellows. The giant ramp astern, raised like a scorpion's tail, will be lowered then and the rolling stock below will trundle off and away. Later the Sandy Hook pilots will get a check from Barber Lines for about $2,500.

Cahill and I walk down the gangway and out through a rising storm to the pilots' waiting pick-up car. He talks more now, unwinding from the kind of stress few of us ever experience—the responsibility for the safety of millions of dollars worth of ship and cargo and the well-being of its crew. He looks back at that responsibility, lying still now in the cold wind. "I remember years ago," he says, "the ships were smaller then. We had no radars, no gyros, just a magnetic compass." We walk along in the cold for a while. Cahill chuckles to himself. "But we used to get around."

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By Sue Arnold

The British are making book on Great and Little Domesday

Two parchment volumes filled with villeins and lordships are 900 years old, and there is much medieval ado in Merrye England

In case you didn't know, and it could be important, the Domesday celebration got under way at the Tower of London on March 19. No doubt the National Domesday (pronounced doomsday) Committee will announce the date of Judgment Day after their next meeting, but at the moment the activities are due to reach a climax with a Domesday Ball at the Grosvenor House in Park Lane, to be attended, touch wood, by the Prince and Princess of Wales. Where else but in England, you may reasonably ask, could the idea of a National Domesday Committee be taken seriously?

But this time the English have a splendid excuse. They are celebrating something that shows the extraordinary continuity of English government and society over the past 900 years, England's most important single historical treasure—the Domesday Book.

Curiously, though it stands alongside the Bible and the Koran as one of the world's three most famous books, many an Englishman would be hard put to say exactly what it is ("Something to do with Magna Carta?"). Even after being advised that the Domesday Book is a comprehensive land register and demographic survey of England commissioned by William the Conqueror 20 years after the Battle of Hastings, which of us would be all that much the wiser?

Domesday Book is the oldest public record in Britain. It is also the most remarkable statistical record produced in any medieval kingdom. To describe it as a survey is to describe the pyramids as coffins. William wanted to know who and what he could tax and what kind of a country he now controlled after two decades of occupation. What he got was 34 of the English counties described with the detailed brush of a Victorian miniaturist. The report proceeds county by county, landholder by landholder, practically field by field. Many of the 13,418 places mentioned in its two volumes (known as Great and Little Domesday) still exist, with churches and mills often standing on or near their original 1086 sites. The history of every English village starts with Domesday, and this year every English village is taking care to extract the last ounce of Norman nostalgia out of the novocentenary celebration.

Britain is fast becoming a nation of anniversaries not wholly unconnected with the British Tourist Authority's hunger for dollars, Deutsche marks and yen. Last year was 40 on from VE Day, with the Tudor 500th (1485-1985) for those who prefer an older vintage. Nineteen eighty-four belonged to George Orwell. Thanks to the Royal Wedding 1981 was easily the biggest box-office gross ever, and 1977 embraced Queen Elizabeth's Silver Jubilee. But beside Domesday these are as the sounding of brass and the tinkling of cymbals. Long after the last Domesday T-shirt is sold, the celebration bonfires are dead embers and the commercial razzmatazz is forgotten, the rekindled public interest in the book itself—the King's Book, or the Book of Winchester, as it was first called—will serve as a reminder that Domesday is alive and well, and well worth a second glance. For embedded in its accumulation of statistics, so valuable for scholars and historians, lie tantalizing glimpses of a lost world—a world full of knights, villeins, cotters and sokemen, where rents were paid in sticks of eels and sesters of honey by tenants called Ralph the Haunted and Olwyn the Rat, where pigs were fattened on acorns and the fine for shedding another Englishman's blood was ten shillings on weekdays and 20 on the Sabbath.

William, Duke of Normandy, defeated King Harold

Dr. Geoffrey Martin, Keeper of Public Records, London, stands behind the Great Domesday Book.

Photographs by Bryan and Cherry Alexander

At Hastings, in 1066, French (horseback) defeated English, making William of Normandy England's king.

By 1085 Norman control of conquered islanders led William to order a detailed report on his new kingdom.

at Hastings in 1066, the first date English children learn at school. As King William I, during his Christmas court in 1085, he commissioned the Domesday survey. Thanks to the drastic editing and organizing of a mysterious but formidable fellow known to scholars only as the Winchester Scribe, accounts of 31 English counties were eventually crammed into the 764 parchment pages (each page 14 by 20 inches) that make up what is known as Great Domesday. Three other counties, Essex, Norfolk and Suffolk, handled more generously in the 902 smaller pages (each 7½ by 11½ inches) and known as Little Domesday, provide a far more detailed account. Both were completed in seven months by agents of the Royal Treasury at Winchester and presented to the King on August 1.

William couldn't read Latin (his boyhood tutors kept getting poisoned or stabbed to death), but he must have been highly pleased, for the Domesday Book revealed England of the late 11th century as a wealthy country with a successful mixed economy. It had a population of 1.5 million. It was 15 percent woodland, 25 percent pasture and 35 percent arable, the rest being settlement or wasteland. With its abundant farms, fisheries, mills and vineyards, it must have been similar in many respects to present-day France.

The book, as far as we know, did not get its awesome title until 1179, though it was held in universal respect, bordering on terror, as a record solid enough with which to confront doomsday. Early on it was kept in the Royal Treasury at Winchester, along with the Crown Jewels. Later it traveled around the country with successive Kings of England and, in matters of legal dispute about land or property, became the final arbiter of justice against which there was no appeal.

The Domesday commissioners were asked to obtain the following information from every inhabited settlement in the kingdom: the name of the estate, who held it at the time of King Edward the Confessor's death (1066), who held it in 1086, how many hides (roughly 120-acre units) it was assessed at, how many plow teams belonged to the tenant-in-chief and how many to his subtenants; how many inhabitants there were; how much wood, meadows and pasture; how many mills, fisheries, vineyards, beehives; how much had been added or taken away since 1066 and what the entire estate was worth.

Domesday is not only written in Latin, but is studded with abbreviated word forms not unlike the *env.*, *dim.*, *hors sais.* and *rest* used in the French Michelin Guides (SMITHSONIAN, June 1986). But having mastered the symbols and decoded the script, the reader still faces a mind-blowing clutter of information regarding

The author, who last wrote about the British nanny (SMITHSONIAN, *January 1984*), *is a regular columnist for the* Observer Magazine, *London.*

ratable values and numbers of plows, mills and vineyards, to say nothing of a meticulous count of every villein (i.e., villager), cotter (unfree cottager or peasant) and slave. Altogether there are 107 different types of persons accounted for by trade or race, including 111 Welshmen, five potters, two beekeepers, one hunter and a "poor woman." Then comes the livestock. The Anglo-Saxon Chronicle, a sort of state diary covering English life between the 9th and 12th centuries, took a dim view of such grasping detail: "So very narrowly did [the King] have it investigated, that there was no single hide nor a yard of land, nor indeed (it is a shame to relate but it seemed no shame to him to do) one ox nor one cow nor one pig which was there left out, and not put down in his record."

Here is a typical entry, for the village of Godalming in Surrey some 40 miles southwest of London, now a prosperous commuter town. Car parks, supermarkets and offices cover much of the area today, but you can still estimate the spot on the river where a mill once stood and a heap of stones clearly marks the site of a second church:

[*Land of the King*] *GODALMING* GODELMINGE *in lordship. King Edward held it. Then 24 hides; they never paid tax. Land for 30 ploughs. In lordship 3 ploughs; 50 villagers and 29 smallholders with 19 ploughs. 2 slaves. 3 mills at 41s 8d; meadow, 25 acres; woodland, 100 pigs. Value before 1066 £25; later £20; now £30 at face value; however, it pays £30, weighed and assayed. Ranulf Flambard holds the church of this manor, to which 3 hides belong. Wulfmer held it from King Edward; it never paid tax. Land for 2 ploughs. In lordship 1; 5 villagers and 12 cottagers with 2 ploughs. Meadow, 15 acres; woodland at 3 pigs. Ranulf also holds a second church there, which pays 12s a year. Value of these 3 hides before 1066 and now £4; when acquired £3.*

To understand the references you need to know a little about the society to which they refer. By the time the book was commissioned the upheaval of the Norman Conquest was developing into some kind of recognizable pattern, with most of the land having been taken away from its Saxon owners and given to William's Norman barons (or tenants-in-chief). After all, they had conquered England for him in the first place on the promise of getting land. There were 1,400 of these tenants-in-chief who paid land tax to the King and they in turn leased land to subtenants, the cotters, sokemen (free peasants) and villeins of the piece.

One reason William commissioned the study was that in the spring of 1085 there were rumors of a massive invasion by the combined forces of King Canute the Dane and King Olaf of Norway. The threatened attack fizzled out, but the King was anxious to discover where he could increase the tax known as Danegeld (money previously used to buy off Danish raiders). It was also important to keep track of who owned what, and how much, in part because as monarch he had to settle many disputes over land tenure, in part because, when dishing out land to his barons, the King liked to know where the local balance of power lay.

The commissioners entrusted to bring back the information were of course Normans, still hated and feared (with reason) by the indigenous Anglo-Saxon population. As they made their way on horseback through the countryside they were heavily protected, with French pennons fluttering from the lances of their armed guards. The commissioners dispatched to cover Worcestershire, for example, were headed by Remigius, Bishop of Lincoln, with one clerk, two

Domesday stamp costs 17 pence, celebrates 900th anniversary and the virtues of medieval husbandry.

Official "Domesday Village," East Meon was thriving in 1086, still has communal gardens like this one.

As part of exhibit, expert demonstrates how parchment was made from properly cleaned and dried sheepskin.

Great Domesday page for Wiltshire includes list of tenants-in-chief and (right) manors owned by William.

monks and three important laymen: Henry de Ferrers, Walter Giffard and Adam FitzHubert, the brother, we are told, of Eudo the Steward. At each county seat they visited, the local high sheriff would dispatch local officials in smaller groups to bring back the information. The villagers were required to give evidence on oath and the punishment for perjury was harsh.

There is strong evidence that an existing and long-established local government network combined with contemporary lists and records, some dating back to King Alfred the Great, assisted the inquiry. It was this combination of Norman power emanating from a forceful and determined sovereign, and the famous Anglo-Saxon penchant for bureaucratic organization, that made it possible to complete such a formidable task in so short a time.

Once collected, the information was dispatched posthaste to Winchester, William's capital, to be put in shape by the Winchester Scribe, an extraordinarily competent civil servant working in the Royal Treasury, who served as editor, proofreader, draughtsman and printer all in one. The identity of the Winchester Scribe has been the subject of much scholarly speculation. Unlike many medieval stonemasons who carved an initial or personal symbol at the bottom of a cathedral pillar, this remarkable man left no personal signature of any kind on the pages of Domesday. There is considerable support for the theory that he was a royal chaplain by the name of Sampson, later Bishop of Worcester, but whoever he was nobody disputes the Winchester Scribe's astonishing achievement. A certain number of pages were set aside for each county,

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but since the information from the commissioners kept arriving in random dribs and drabs, he sometimes had to guess how much space he would have for material not yet in hand. Mostly his line estimates turned out to be pretty accurate but, when information arrived too late, he had to cram his writing to fit the space, or add half-lines.

The climax of the work came on August 1, 1086, when all the tenants-in-chief assembled at Salisbury to swear allegiance to William and take a solemn oath that the information contained in the survey was true.

Three abbreviated copies were made of the book in the 12th and 13th centuries when it was still heavily in use as a legal document. It actually was physically presented as evidence in court for the last time in 1663 in Gloucester. In 1859 the Domesday Book was taken to the Public Record Office (PRO) in Chancery Lane. Apart from two brief periods of exile for safekeeping during the two World Wars, it has been there ever since. Two years ago the PRO made the controversial decision to divide it into five sections—making it easier to put on public display. Considering its age and the fact that it was in constant peripatetic use for two centuries and has always been of interest to historians, geographers, archaeologists and demographers, the parchment is in remarkably good shape.

While the Domesday revels proliferate all over England throughout this year—feasting in Gloucester, jousting in Leicester, walkabouts in Hastings, fireworks everywhere—the biggest individual event is the Domesday exhibition at the Public Record Office that opened in April and runs until September 30. Five galleries of this fine Gothic building midway between St. Paul's Cathedral and Trafalgar Square have been given over to the Norman Conquest. The exhibition's theme is the continuity of royal government (except for that brief Cromwellian hiccough) from William I to young "Wills," Prince William of Wales who will one day succeed his father, Prince Charles, on the British throne. Here visitors trace the family tree of an English lord whose ancestors date back to the 11th century, watch craftsmen make parchment and calligraphers write with quill pens in the exquisite script of the Domesday scribe. And they can walk over an aerial map of the city of Lincoln showing past and present Domesday sites. With a bit of luck this informative flooring may spur them to visit the place itself. Lincoln has two major anniversaries going on this year, Domesday 900 and the 800th anniversary of St. Hugh of Avalon, Bishop of Lincoln. St. Hugh's doings included an "In the Footsteps of the Saint" pilgrimage to his birthplace in Grenoble.

And naturally all tourists in England this summer will be invited to buy a bagful of souvenirs, from 30-cent stickers to a $1,200 solid oak throne complete with secret compartment—to hide your Domesday Book in.

Quill-pen writing on sheepskin was kept precise by holding in place with a knife point. At right are Great Domesday Book and a new Alecto facsimile (with William I penny) that costs $7,800 a copy.

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Heather Hodges of Westbury is one of 250 Britons who traced their ancestry back to the Domesday Book . . .

The post office is issuing four special Domesday stamps. A canny vintner is marketing wine purporting to come from grapes grown in Domesday vineyards. Umbrellas painted with threatening Domesday storm clouds will make light work of the famous British summer. What Tutankhamun did for the British Museum back in 1972, it is hoped Domesday will do for the Public Record Office. More than 250,000 people are expected to visit the exhibition in five months; normally the book, on show to the public daily between 1 P.M. and 4 P.M., attracts only about 7,000 people a year.

While the souvenir makers hope to grab a fast buck from 1066 and all that, the PRO is looking for a more permanent legacy, hoping that Chancery Lane will become as much a stop on the tourist trail as Westminster Abbey or Madame Tussaud's. And why not? There are some rich historical pickings to be had at Chancery Lane, treasures that no one seems to know exist. Shakespeare's will, for example, Guy Fawkes' confession to the Gunpowder Plot to blow up Parliament (signed in a wobbly hand after torture) and a letter from the Earl of Leicester to Queen Elizabeth I begging her forgiveness for a poor old servant on which the Queen has written in the margin, "His last letter."

The Domesday exhibition has a more serious intention, too, for it exemplifies and helps explain the meaning and significance of a national archive that previously interested only scholars and historians. This aim has been greatly assisted by a lot of new translations and facsimiles timed to coincide with the 900th anniversary. The first complete and annotated interpretation of Domesday Book is a large glossy 351-page extravaganza, lavishly illustrated and called *The Domesday Book—England's Heritage, Then and Now*, edited by Thomas Hinde and published by Hutchinson in association with the English Tourist Board. Even with all the advantages of modern communications and technology, Hinde's team of seven writers and eight researchers took three times as long to produce their version as the original Domesday commissioners 900 years ago.

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. . . as can Merlin, Lord Sudeley, who is not impressed because his family tree goes back before Charlemagne.

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those from Alecto Historical Editions, a publishing house that specializes in high-quality work at equally high prices. There will be up to 2,000 copies of the Library Edition (which no self-respecting medieval-history faculty can afford to be without) taking the form of an 800-page facsimile in two boxes, along with translations, indices and maps. One set was presented to the Queen at a special ceremony in May, but it will cost everyone else $3,900. A fancier set goes for $7,800.

Alecto's massive undertaking has been eased by the PRO's decision to rebind and divide Domesday, making it temporarily available piecemeal for photographing. This was done over a period of eight painstaking months by a special camera the size of a small family car, under conditions normally associated with top-security prisons. Working in a steel cage custom-built for the purpose by the government's Department of Works, the master printer was not allowed to touch the pages himself—only the PRO's master binder was afforded that privilege. Alecto has gone to enormous lengths to produce a near-perfect facsimile. The original 1,666 pages of Great and Little Domesday were made from stretched sheepskin. Some of the original parchment had to be replaced and the country's sole surviving parchment maker at Newport Pagnell in Buckinghamshire had to be brought in. According to Robert Erskine, Alecto's general editor, "It's a helluva business because once the pages are unbound they seem to want to revert to sheep shape." Probably the most ambitious of all the Domesday projects is the BBC's $5 million compilation of a contemporary Domesday survey covering the whole of the British Isles using data from the big national archive plus the help of a million schoolchildren busily collecting information.

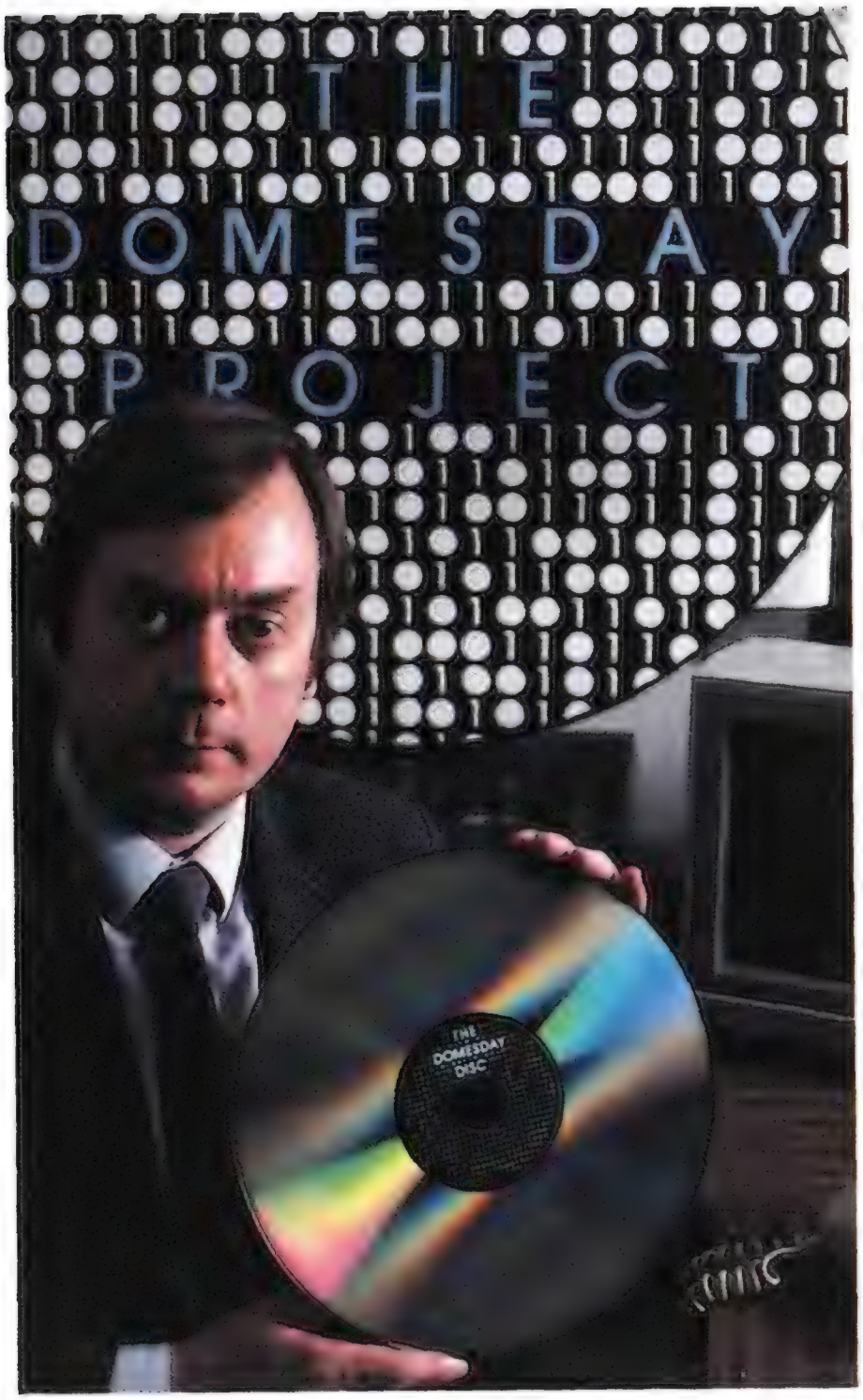
At a five-day Domesday Conference sponsored by the Royal Historical Society in Winchester in July, attempts will be made to identify the Winchester Scribe. There will also be papers on such things as "Greater Domesday Tenants-in-Chief," "Domesday Estate Structures in the West Midlands" and "The Beyond of Domesday Book," which could almost be a chapter heading from J. R. R. Tolkien. Between lectures the conference delegates will be taken on historical excur-

Souvenirs at PRO shop range from solid gold medal at $1,600 to commemorative erasers offered for 90 cents.

The Queen Mother attended a ceremony at the Abbey.

I stand by my brandy. E&J.

80 Proof Brandy, E&J Distillers, Modesto, California. c 1986



BBC's Peter Armstrong holds laser disc that contains new Domesday data on every aspect of British life.

sions, all for the bargain price of a $30 registration fee plus $115 for five days bed and board.

Inevitably the most impressive show is at the Public Record Office. In addition to the book itself the PRO provides a genealogical handbook, already in its third edition, called *Tracing Your Ancestors in the Public Record Office*. As a kind of curtain raiser the PRO ran a nationwide contest to find out how many people could trace their families back to Domesday. Two hundred-fifty people successfully did so, including a Mrs. Heather Hodges (p. 90), a Wiltshire grandmother who proved conclusive descent on one side from William the Conqueror, and on the other from Earl Waltheof, a contemporary Saxon noble (and potential pretender to the throne).

It is unlikely that Merlin, seventh Lord Sudeley, whose 40-foot pedigree enhances the first gallery of the PRO's Domesday exhibition, would be overly impressed with Mrs. Hodges' descent, since his own *precedes* Domesday by at least 200 years. It is an experience bordering on absurdity tinged with awe to meet Merlin Sudeley, who catalogs the names of his forebears as other men recall old school chums. Sitting in his bachelor flat in North London, flanked by marble busts of the second Lord and Lady Sudeley, His Lordship gossips about such relatives as Ralph, Earl of Hereford, a nephew of King Edward the Confessor. Since Edward died childless, Merlin still has an outside chance of claiming the English throne. Indeed, the Royal House of Windsor sounds almost arriviste beside the noble house of Sudeley.

Putting it all on computers

Tracing ancestors, which must be regarded as fairly frivolous, is also fairly easy. But Domesday's sheer density of facts, plus the haphazard order in which they are entered, long hampered scholars bent on getting an overall picture of the country, circa 1086. If, for instance, you wanted to know about village life, you had to read through the entries on all 25,000 manors and thereafter painfully piece together the relevant fragments of 13,000 villages. But modern computers are beginning to change all that. Five years ago Dr. John Palmer, senior history lecturer at the University of Hull, set out to solve this problem by arduously feeding Domesday's one million words and a million statistics into a computer. Recently he produced a computer-readable text to the entire book.

Now a scholar concentrating his medieval studies on, say, contemporary Norman laws and customs, at the touch of a button can see that in 1086 the brewing of bad beer was punishable by a session on the dung stool; that in Hampshire a man refusing to cut the King's corn in August would be fined twopence; that

in Devon, if a man concealed a sester (4.5 pounds) of honey, he must forfeit five sesters; that a man guilty of adultery in Kent paid his fine to the King while an adulterous woman paid hers to the Church. Based on this meticulous indexing of facts, students in the University's history department have come up with some intriguing new theories. There is evidence that the King created special enterprise zones in certain parts of the country with tax concessions to specific landlords.

One of the earliest results of Dr. Palmer's work was a series of maps of the midland county of Bedfordshire showing the advance of the Norman army. By tracking the decline in land value between 1066 and 1086 the maps clearly show the terrible devastation inflicted on the countryside by the conquerors. Those fortunate Anglo-Saxons who lived farther away from the military routes could expect to prosper. Meanwhile, in darkest America, computers are also aiding the task of indexing for the Alecto facsimile. Funded by a grant from the National Endowment for the Humanities, a Domesday Book data base has been created. At the University of California, Santa Barbara, two patient young medievalists, Robin Fleming and Katherine Mack, are using it to produce detailed maps and scholarly indices. The indices are bounced via satellite to the printer in London.

Computerizing Domesday will tell us more about Norman England than anyone imagined possible. And yet, and yet. . . . Does it sound like heresy for a romantic soul unmoved by modern technology, gazing out over the dying centenary bonfires as he sips his Domesday wine, to reflect wistfully that putting Domesday to the computer is like straightening up the leaning Tower of Pisa or rejuvenating the Sphinx? Perhaps the most exciting aspect of the Great Book of Winchester is the surprise factor. The inquisitive scholar wades through page upon page of fastidiously collated data concerning ratable values, plowshares, livestock and land tenure, and suddenly comes across a line saying that, instead of demanding rent, the Sheriff of Trent allowed the Lady Aelgar to live on his land free of charge provided she taught his daughter how to do gold embroidery. Now *that's* what transforms Domesday from matter to magic.

Begun in 1085, the year that Domesday data began being gathered, All Saints Church is still in service in East Meon, Hampshire. The population was 400 in the time of King William. Now it has swollen to 900.

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By John Madson

The North Woods: a horn of plenty for Old Bucketnose

The mighty moose has staged a stirring comeback in the upper United States, thanks to increased protection—and lots of food

My first thought of the day, at the edge of dawn in Michigan's Isle Royale wilderness, was that the place should be renamed Hog Heaven National Park. I know a happy hog when I hear one, and there was clearly a happy hog somewhere in the vicinity of our tent. I rolled over in the sleeping bag and looked out. In the gray dimness, Feldtmann Lake lay under a thinning veil of mist. Fifty yards away, an apparition broke the surface: a set of great antlers crowning a dark mule-like head. Stems of water plants were draped from one antler. Then came the snorting exhalation and that hoglike grunt of perfect contentment. It was a bull moose, wading with only his head above water, then submerging completely for an early breakfast of succulent aquatic plants.

Diving for breakfast is one of many things that separate moose from other deer. And even though it has the running lines of a plow horse, the moose *is* a deer—the largest in the world and one of the largest that ever lived. As moose go, our wake-up bull was only middling—800 pounds or so, which is about half as big as some Alaskan bulls that may weigh as much as 1,700 pounds. Crowning adult bulls is another moose distinction: the great palmate rack that can span nearly seven feet and weigh 85 pounds or more. The animal

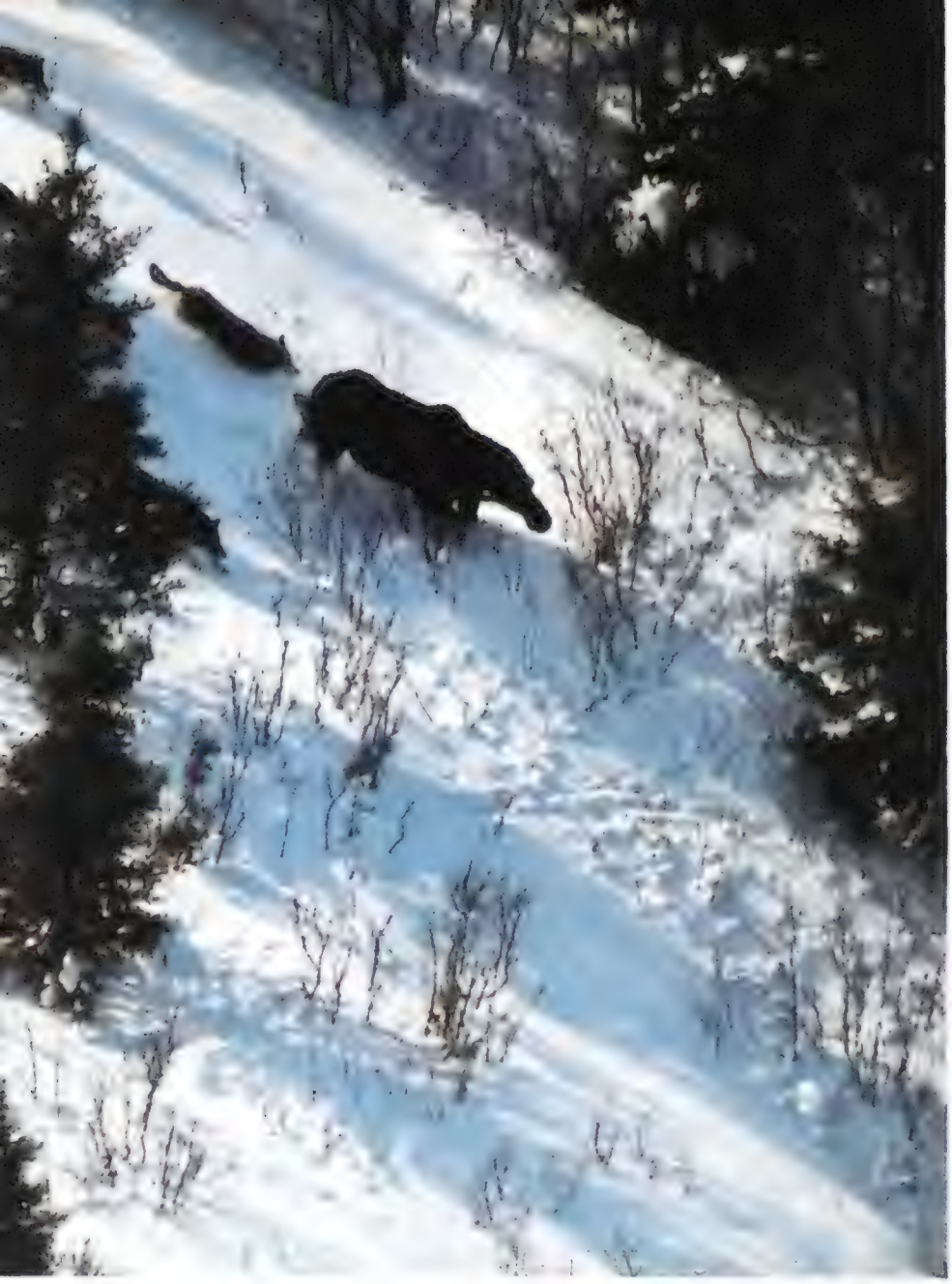
Impressively armored bull browses twigs in Alaska. A moose may eat 50 pounds of willow, birch in a day.

Pack of wolves pursues female moose through deep drifts on Isle Royale National Park in Lake Superior.

Cow watches over dead calf after wolf attack. About a third of all moose calves are killed by predators.

beneath such antlers may be more than seven feet tall at the point of his shoulders and can stand flat-footed and browse foliage nine feet above the ground. Other deer are gracefully proportioned. Old Bucketnose is a slapdash assemblage of mismatched legs, bristly hair, beady eyes, a stub of a tail, an idiotic pendant dewlap called a "bell" (which contributes neither beauty nor utility) and that fleshy, flexible snout.

Being surprised by such an animal is the stuff of bad dreams. I went fly-fishing in northeastern Minnesota's Temperance River not long ago—the river is named for the fact that there is no "bar" where it enters Lake Superior—and was returning to camp at dusk when I met an uncommonly large moose on the trail. Magnified by poor light and my cowardice, it loomed motionless no more than 20 paces ahead—a towering menace with shadowy antlers wider than the trail he commanded. On my left was a bank too steep to climb; on the right was a tag-alder hell that would have been tough going in good light. I turned my head, hoping to find an opening in the alders and intending to make one if necessary. I hadn't taken my eyes off the moose for more than ten seconds—but when I looked up again,



When the moose turned to face them, the exhausted wolves gave up rather than risk harm from its hooves.

the trail was empty. A thousand pounds of bull moose had vanished without a sound.

Such close encounters seem more and more likely to occur in many parts of the North Country today, for the moose is in the midst of an impressive resurgence. After all but disappearing from New England a century or so ago, the animal has recovered in Maine to the point where limited hunting is allowed. It is enjoying palmy days on public lands in the West, the lake country of Minnesota remains a moose stronghold and a herd that has been transplanted from Canada to upper Michigan is doing very well indeed. Happily, it appears, we are no longer in any danger of losing a creature whose presence is synonymous with wildness and whose unpredictable behavior has engendered a host of bizarre backwoods stories.

Some of those tales may even be true. The old sporting literature abounds with reports of hunters being attacked by moose. The most famous was Theodore Roosevelt. With no apparent provocation, he and his guides were charged on a Quebec canoe portage by a bull moose that came on, Teddy said, "at a slashing trot, shaking his head, his ears back, the hair on his withers bristling." Roosevelt shot the bull when it was "not 30 feet off."

An "old hunting pal" of the famed naturalist Ernest Thompson Seton sized up the moose this way: "Woe to the hunter whose eye or nerve fails him, when he is charged by the giant bull. I know of more than one lifelong cripple, and have heard of more than one death, as the result of the monster's headlong charge."

Demythologizing the man-killer

Ninety years ago or more, in a hunting camp at the headwaters of Maine's Aroostook River, author Samuel Merrill asked several guides about the danger of a moose attacking a man. None of them had ever been attacked, and the most experienced man in the group —a dour, silent woodsman named William Atkins— was finally asked for his comment. "Well," drawled Atkins, "I expect I've been attacked by moose as many times as most anyone." While his listeners awaited tales of hairbreadth escapes, the old guide paused and fired up his pipe. "Lots o' times I've wished that the moose *would* get to chasin' after me," he went on, "instead o' leavin' me to chase forever after them."

While its reputation as a threat to Man has doubtless been overblown, the moose can sometimes, as TR discovered, be a real troublemaker. Every winter a hungry throng of the animals descends upon the Alaskan city of Anchorage from the nearby Chugach Mountains to browse on trees, shrubs and garden plants in residential neighborhoods. Last year, a contestant was forced out of the grueling Iditarod sled-dog race between Anchorage and Nome when a cow moose killed one of her dogs and injured seven others. And in Morrisville, Vermont, a few years ago, a possessive bull moose took over a dairy farmer's herd of Holstein cattle, running off the animals' rightful owner whenever he tried to round them up for milking. The interloper finally had to be tranquilized and hauled away by game wardens.

The moose is a formidable adversary for wild predators. Any attacker mounting a frontal assault on a healthy adult isn't likely to try it twice. But even though big moose may take a lot of killing, they can be had. Grizzlies have been seen pulling them down in Yellowstone, and grizzlies and black bears alike prey on the calves. Substantial calf mortality is caused by bears in parts of Alaska, according to state game authorities. As a moose specialist the gray wolf is in a class of its own, but even this wily pack hunter attacks with caution. An embattled cow can be a fearsome

Illinois writer John Madson enjoys camping out in the wilds of the West, Alaska and Canada. His article about catfish appeared in September 1984.

Two restless bulls clash antlers as a third looks on during an autumnal snowstorm in the Alaska Range.

creature, keeping her calf in front of her as she mounts rear guard and lashes out with front and hind hooves. Frank Dufresne, an old-time Alaskan game warden who knew his moose, observed: "Here is a moose at its most dangerous . . . not even the lordliest bull in the madness of the autumn rut commands greater respect." One blow from a cow moose's hoof can kill an adult wolf, or cripple it.

When it comes to attacks on adults, folklore has it that wolf packs try to hamstring their prey. But of the hundreds of wolf kills examined by biologists on Isle Royale, none had its Achilles tendons severed. A pack of wolves attacking a moose at bay will almost always do so from behind, often led by the more experienced wolves that come in from opposite sides, feinting and closing until they can bite and slash at the heavy muscles of the moose's upper leg. As the hindquarters are weakened the attack may shift to the flanks and finally, as the moose goes down, to the throat.

Of all the moose chased or brought to bay by Isle Royale wolves, only about one in a dozen is killed. The same evolutionary processes that have honed the wolf's hunting ability have also equipped his large prey in special means of evasion and defense. Through uncounted millennia of selection and mutual stressing, moose and wolves are better for having had each other.

The wolf's most useful skill is the capacity to judge the vulnerability of moose. Wolves become professional appraisers, testing moose in ways that reveal certain critical weaknesses. Biologist Durward Allen, one of the premier investigators of Isle Royale wolf-moose relationships, writes: "In a sense, Isle Royale moose receive regular physical examinations by wolves—and the day of reckoning will come." Wolves prefer to go after handicapped or infirm moose, but under certain circumstances they also attack healthy young animals. Still, in spite of all the predation, Isle Royale's moose population thrives.

The deadliest moose predator of all, to be sure, is Man himself. Working with the thinnest sort of population data, Ernest Thompson Seton once made a guesstimate of primitive North American moose numbers: about a million animals within a range of 3,500,000 square miles. This was undoubtedly a conservative estimate. Before the coming of white hunters, the Adirondacks may have held more moose than deer —and moose were still fairly plentiful there in the first half of the 19th century. By the early 1900s, unre-

Relatively placid for most of the year, bulls become ornery in the fall rut when serious fighting takes place.

stricted hunting in the southerly margins of the North American moose range had virtually wiped out moose in much of New England, Michigan, Wisconsin, Minnesota, Idaho, Washington and Oregon. They were killed for the meat market and for lumber camps by pot-hunting farmers and trophy-hungry city sportsmen. Some backwoods hunters killed dozens of the animals each year. One old Maine woodsman, Nathan Moore, kept a record. At his death in 1906, at the age of 88, his score stood at 276.

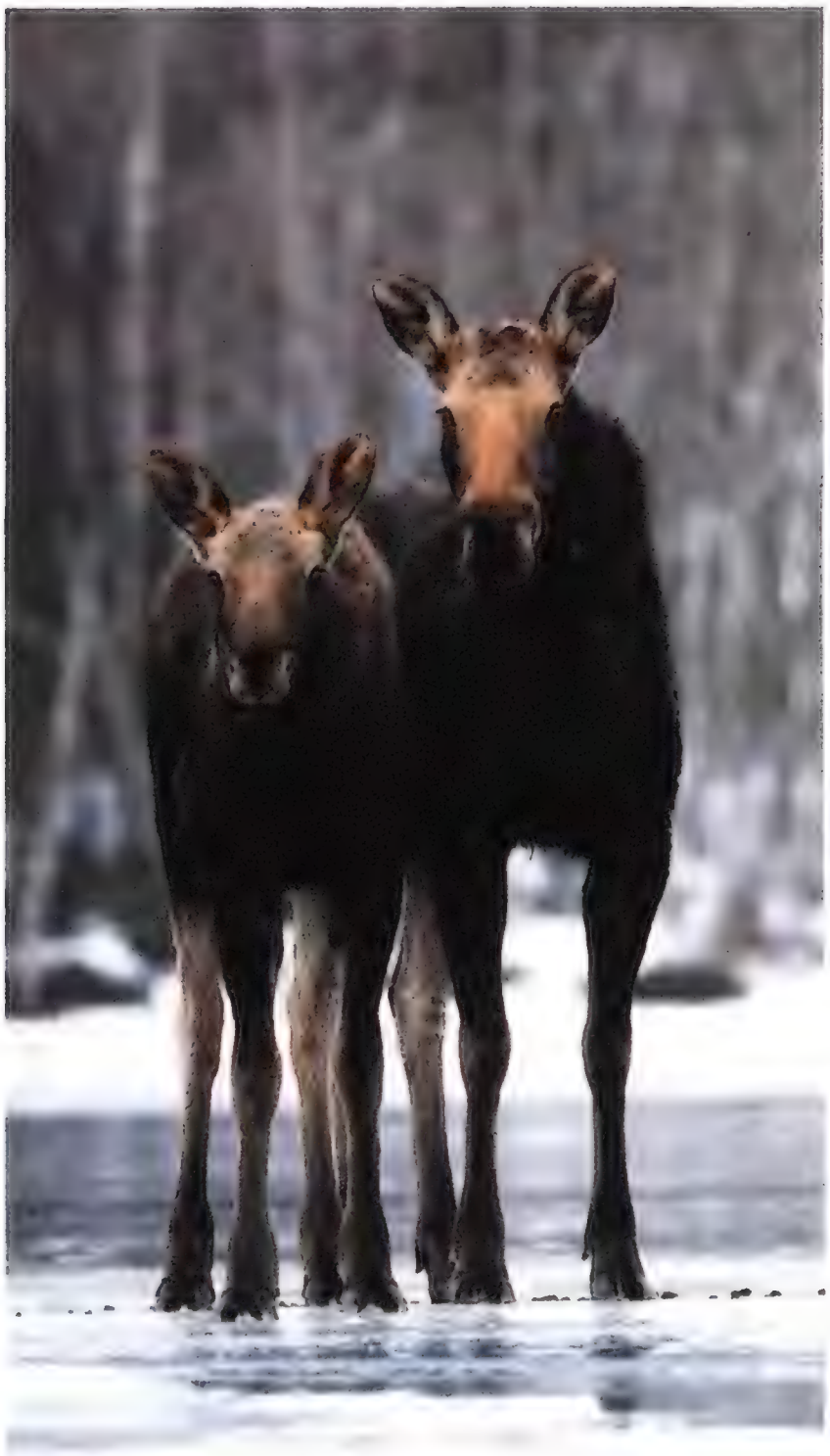
It's little wonder that moose were coveted by early settlers in the North Woods; a big one might provide a crew of lumberjacks or a large farm family with up to 700 pounds of excellent meat. It is highly nutritious; some Indians believed they could travel three times as far after a meal of moose meat as after eating any other kind of food. Further, moose meat is the only kind of venison that can be readily preserved in brine. Meat of the smaller deer was best preserved by drying, but moose meat could be corned and scarcely distinguished from corned beef. And topping it all off was that haute cuisine of the northern boondocks: "moose muffle."

This is the big nose or muzzle of the moose, which was compared to all sorts of things. It was said to have a character and flavor something like the fat of the green turtle. "Rich, delicate and somewhat gelatinous," it has also been described as "white and tender as spring chicken, yet firm and substantial as fresh beef, with a flavor combining the excellencies of both." Baked moose muffle is also supposed to resemble baked beaver tail, for what that's worth. I've never tried moose muffle and, since I've already eaten baked beaver tail, I don't feel any great need to.

Indians and early settlers found moose leather useful, although some old-timers thought it was much inferior to either buckskin or caribou skin. It is thick and soft enough, but porous and easily stretched. Moosehide moccasins were said to start leaking about 24 hours before it started to rain. Believe it. I've owned several pairs of heavy moosehide winter moccasins, made oversize to accommodate thick woolen socks. In cold, dry weather they are fine. At the first hint of thaw, they take on water like thirsty camels.

Whatever the reasons the animals were taken, whether for leather, meat, money or trophies, or just because they happened to be there, our pristine American moose herd was shot to dollrags. Moose were in desperate straits in the 48 lower states before a wave of belated public concern in the 1890s led to stringent protection. Since then, under the aegis of modern conservation programs, the animals have made a remarkable comeback. Based on solid survey data, our modern North American moose population is now thought to be from 800,000 to 1,200,000 animals. Although about 90,000 moose are taken by hunters each year, it's felt that moose are stable or even increasing in available habitat. In the lower 48, there are moose in Idaho,

Bull and cow meet after much bellowing in the bush. A bull may mate with several cows in a single season.



Stranded on glare ice, cow (right) and calf watch an intruder. Pair stayed put until snow improved footing.

Montana, Wyoming, Utah, Colorado, North Dakota, Minnesota, Michigan, New York, northern Vermont and New Hampshire, and Maine, with possibilities in Washington and Wisconsin.

The moose's healthy status here is due partly to serendipity (forest fires and logging often result in significant habitat improvements) and partly to the fact that wolves and other natural predators have been greatly reduced in number over much of the big deer's southerly range. Beyond that, many state wildlife agencies have become increasingly adept at managing moose numbers and moose country so that the animals have access to adequate food and cover all year long.

Moose hunting today is carefully regulated. Consider Maine. Its moose had been decimated, but after 45 years of full protection the herd recovered and limited hunting was resumed in 1980. In order to assess the impact of that first season, no hunting was allowed the following year, and when it was resumed in 1982 there was a storm of protest. Opponents felt there were not enough moose to justify an open season; on the other hand, state game biologists estimated the herd to be 24,000 strong. In response to the public outcry, a voter referendum was called in 1983—and the pro-hunters carried the day. There have been Maine moose-hunting seasons each fall since then and the herd seems to be holding steady at about 25,000 animals.

In other states, empty portions of original moose range are being restocked. Last year, Michigan's Department of Natural Resources got 29 moose from Ontario for transplanting to the Upper Peninsula. The herd now numbers 42 despite the loss of seven adults and one calf, three to disease. In 1978, the Colorado Division of Wildlife began restoring moose in part of that state's historic Rocky Mountain moose range with the release of a dozen creatures that had been captured in Utah. They have increased to about 100 animals—as many as the available habitat can hold—and a limited hunt was held there last year.

Too many moose on the roads

All moose are of a single circumpolar species, *Alces alces,* found in most of Canada, northern Russia, a corner of Poland and parts of Scandinavia, as well as Alaska and the previously mentioned states. In Sweden, moose are so plentiful in some areas that they pose a serious traffic hazard. The same is true in parts of Alaska. On the Kenai Peninsula, as many as 250 moose have been killed on the highways in one year. But although a one-ton car can readily triumph over a half-ton moose, it's a Pyrrhic victory. As one Alaskan wildlife biologist puts it: "You've seen the damage an ordinary white-tailed deer can do to a car? You should see what a bull moose can do!"

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Peering over a shrub, a big bull reveals its shedding antlers. Horns start growing in early April, covered by a soft layer of skin called the "velvet." In August, the velvet peels and is rubbed off on bushes and trees.

Some of the most tragic losses occur along the Alaskan Railroad in winter when deep snow drives moose into cleared railroad rights-of-way. Refusing to leave the easy going even when trains approach, the moose haven't a chance. During the winter of 1984-85, 384 of them were killed. North of the town of Willow, where 95 miles of track run through a district of deep snow and abundant moose, 281 were killed between early November and late March.

If a particular range has little in the way of shade, rivers or lakes, and if its summer temperatures stay much above 80 degrees F for very long, that place cannot support moose. The animal's blocky body, dense coat and long legs are all winter equipment. There are also some physiological adjustments. In homoiothermic animals—those able to maintain relatively high, constant body temperatures by metabolic activity—there is a "thermal neutral zone" at which the animal is comfortable and uses little energy to stay warm or keep cool. Our thermal-neutral zone is roughly from 75 to 85 degrees F. Below the lower temperature, we begin to expend energy to maintain body heat. In moose, the lower critical temperature has never been determined—but they may appear to be quite comfortable at -40 degrees F. The upper critical limit for moose is far less forgiving. Alaskan biologists working with captive moose will not immobilize them at air temperatures above 50 degrees F. The animals simply can't take the double stress of an immobilizing drug and relatively high temperatures.

This intolerance for warm weather is one reason moose aren't kept in many zoos in the United States. That, and their food requirements. An adult moose's stomach can hold up to 112 pounds of food—and the fact that this must be fresh-cut browse of the right kind has made it impractical, until now, to keep captive moose. Current studies appear to have solved the food problem. At the Alaska Department of Fish and Game's moose research center at Soldotna, penned moose fed a new concentrated ration have not only survived but are in excellent health and showing high calf production. The ration consists of aspen sawdust; ground corn, oats and barley; cane molasses; and soybean meal with added vitamins and minerals.The key to the formula's success is apparently the sawdust. It appears to be a reasonable substitute for the browse that is a staple moose food at times.

Moose may "bark" aspens whenever they can, depending on the availability of fallen trees. Since they lack upper front teeth, they find it much easier to scrape bark from a horizontal tree than a vertical one. The animals are classic browsers—"moose" is derived from an Algonquian Indian word that means twig eater—depending on leaves, bark, tender twig tips and buds for much of their food. They occasionally also graze on grass. That's not easy with those stiltlike front legs, so

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Teddy Roosevelt, who ran for President on Bull Moose ticket, got wet riding party's symbol in faked picture.

Buckskinned hunter reaches across the record span of a moose he killed in the Yukon Territory in 1897.

a grazing moose may just get down on its knees and work across a meadow like an outlandish lawn mower.

One of the long-standing puzzles of moose biology has been its habit of eating aquatic plants in summer. It just didn't compute. A stock explanation was that moose took to water to escape summer heat and biting flies. At midday, however, the sunny shallows of a beaver pond may be far warmer than the shaded depths of a cedar swamp. Then, too, northern lakes may abound with leeches that attack moose and leave bleeding lesions that attract flies. Considering the high water content of aquatic plants and the energy used in plowing around through muddy shallows, the whole undertaking would appear to be a net nutritional loss.

It has been found, however, that terrestrial browse isn't likely to give a moose as much sodium as it needs. Such food may have an average content of only about ten parts per million and even natural "licks" so rich in other vital minerals and trace elements may be unable to meet a moose's sodium requirement. The slack is neatly taken up by submerged aquatic plants that tend to concentrate up to 10,000 parts per million of the essential element. Up to 90 percent of the annual production of such aquatic plants may be eaten by moose in some lakes and ponds.

Like other ruminants, or cud chewers, the moose has a four-chambered stomach. It does not digest its food as we do, by exposing it to enzymes that break it down into proteins, carbohydrates and fats that can be absorbed through the intestinal walls into the bloodstream. Instead, the moose converts plant tissues into usable compounds through fermentation, mostly by bacteria that are transmitted from the mother to the young. As chewed food passes from one chamber to another and on into the duodenum, the microbes multiply in the nutrient slurry. They produce the fatty acids that meet the moose's energy requirements. They use the nitrogen in the moose's food to synthesize proteins, which eventually become amino acids. The final steps in this process of chemical recombination take place in the intestine, where essential vitamins appear. All of the refurbished nutrients pass into the moose's bloodstream through the lining of its gut.

Bull moose must take in a tremendous amount of food—as much as 50 to 60 pounds a day—during the four months when their great racks are developing. Growth is particularly rapid in June and July. In late August the blood supply to the antlers cuts off; the

DEWAR'S PROFILE:

ALISTAIR BALLANTINE

HOME: Mombasa, Peking, Cairo, Delhi, London, Edinburgh, Bangkok, Nairobi, Kuala Lumpur; with a more permanent camp in darkest Connecticut.

AGE: 37

PROFESSION: President, Abercrombie & Kent Safaris, Inc.

HOBBY: Elephant polo at Tiger Tops in Nepal. "Once you know how, it doesn't get easier."

LAST BOOK READ: *Journey Without Maps*, Graham Greene.

LATEST ACCOMPLISHMENT: Organizing a balloon safari over Mt. Kilimanjaro. "Why climb when you can ride?"

WHY I DO WHAT I DO: "Because it's there."

QUOTE: "Boredom is perhaps the one thing everybody can do very well without."

PROFILE: Adventurous and enthusiastic. Has a real talent for getting others to see the world his way.

HIS SCOTCH: Dewar's® "White Label"® and soda. "Dewar's has always been first on my list of civilized necessities."

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soft, skinlike velvet dries up and is scraped away in unsightly shreds (p.106). The horn is then honed and polished by rubbing it against small trees. The racks drop off in the winter.

The most obvious functions of the antlers are to impress females during the fall rut and to intimidate rivals. A big bull approaching a smaller one makes a considerable show of his armament. The animals may engage in a shoving contest before one of them backs off, and sometimes these duels get deadly serious. Durward Allen reports one engagement in which two fighting bulls locked antlers in a pond and died there.

Except for a short time during the rutting season, moose don't get around much. They tend to have a surprisingly small home range. But every now and then some fiddle-footed individual will turn up in completely mooseless regions. During the 1970s, as many as four different moose may have wandered down into Iowa from their northern Minnesota ranges. Two of them eventually went somewhere else and one was shot in a cornfield by a farmer who had the uncommonly bad judgment to weigh the moose at a local grain elevator. This excited considerable interest, since a freshly killed moose isn't one of your standard Iowa farm crops. It was particularly interesting to the local game warden.

The most recent of these Corn Belt pilgrims was a young bull moose that drifted down out of Minnesota, walked almost undetected through much of Iowa and got almost halfway through Missouri. Somewhere south of Hannibal he vanished, leaving no trace but a pair of shed antlers. He also left a record for long-distance moose southering. In two years he probably strolled at least 500 miles as the crow flies.

Although the moose is a quiet creature and generally a solitary one, it is capable of emitting a variety of vocalizations. In addition to the hoglike grunt I heard near Feldtmann Lake, the bull produces "croaks" and "barks." Cows signal to calves with low grunts and the younger animals whine or "cry" to communicate with the mother. During the rut, cows attract bulls with loud wails and quavering moans that can be heard more than a mile away; bulls, in turn, may bellow for cows. Hunters often imitate the female call to tease bulls to come within shooting range.

There was a late-summer evening in Quebec when the magic of the moose came together for me. I was paddling back to a camp located in 120 square miles of wilderness. There was no hurry, even though it was nearly 8 o'clock and the sun was almost down. Camp was but a mile or so away and Barney would be keeping the biscuits hot. Time enough to savor the hour, with a pair of loons laughing their way down the long avenues of glassy lake.

I silently rounded a point and came upon the bull as he stood hock-deep less than a hundred yards away, under the snag of a dead spruce leaning out over the water. He was on guard, sensing that something had changed but not knowing how or why. In the rich, low

Adding moose magic to a wilderness scene, cow and calf wade across lake in Alaska's Denali National Park.

sunlight he was a figure of glowing bronze, the great bone shovels of his antlers held high, the big muzzle questing for scent. A white-tailed deer in the same scene would have been beautiful enough. This was something beyond that; there was a majesty of presence, of command, a spirit of place that transcended the comeliness of lesser deer. More than just a living creature of the northern landscape, he *was* the North. Then, with both loons calling after him, he turned and strode out of the lake and into the darkening forest.

Back in camp I told Barney about it, trying to say how it had been with the moose standing in the late sunlight and the loons calling, and how it all fit together. The old Indian gave his gap-toothed grin and nodded. He understood. He knew, as any bushwise Algonquian knows, that the animal the early French explorers called *l'orignal* is more than just another pretty face.

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ROYAL CARIBBEAN

Song of Norway, Song of America, Nordic Prince, Sun Viking
Ships of Norwegian Registry

e The Same Idea, rger Scale.

By David M. Schwartz

Life was sweeter, and more innocent, in our soda days

An American institution for 100 years, soda fountains appealed to the national taste and temperament—and helped to shape them

Movie romance, notably for wide-eyed Judy Garland and Mickey Rooney, blossomed over sodas and straws.

As a card-carrying post-World War II baby-boomer, I consider my personal Memory Lane to be of relatively short distance, but sometimes I get the feeling that it originated in the lower Devonian. Lately, in an attempt to revive the silken memory of the soda fountain treat called a "brown cow," I've been ordering it by name at family restaurants, lunch counters, ice cream parlors—any place willing to put ice cream and soda into the same glass. But instead of a root beer float with a dash of milk, vanilla ice cream and sometimes chocolate syrup, I've been getting some memorable reactions.

One waitress looked up and down her check-off order pad, then asked if a brown cow was a kind of hamburger. Another backed away with panicked eyes to consult the manager. A third simply gave me a (deserved) "Cut the malarkey, mister" look and demanded to know if I was ready to order.

It had been almost 25 years since I last chased this particular type of frosted delectable down the side of a glass. The setting was that fount of things sweet and flavorful, the Main Street drugstore in my Long Island town. But one day when my friends and I tried to rally there, we were redirected to a sparkling new shopping center. There we found our drugstore all right, but in name only, with a polished fluorescent look and a supermarket's worth of merchandise but nary a counter or stool. There wasn't a brown cow in the house.

All of which is rather sad, not because ice cream sodas are extinct, but because the soda fountain—once an institution as effervescent as the waters it dispensed—has largely fizzled, and with it have gone its many accoutrements, from the gooseneck draught arms behind the counter to the colorful argot of the white-jacketed soda jerks whose name came from the honored practice of jerking the fountain handles forward to make the soda water spray.

"As American as apple pie," we say to symbolize the nation in a single food, but we might as well say, "as American as flavored soda water." Strictly speaking, neither of them originated in the New World but it

Here they sip sweet libations in *Babes on Broadway*. *Love* [*Found*] *Andy Hardy* at a fountain flirtation, too.

was here that both were nurtured to near-icon status.

In 1910, according to the *New York American*, Americans were tossing ten billion nickels a year across the marble counters of more than 100,000 soda fountains, thereby spending enough money on sparkling thirst quenchers to maintain the Army and the Navy twice over. Each year, soda-water lovers slaked their collective thirst on enough carbonated water to float the *Lusitania*; if stacked end to end, the tanks used to hold all this liquid would run clear through the Earth and project 400 miles into space at each pole.

It's quite possible that the *American* arrived at its statistics as imaginatively as it chose its comparisons, but from the 1860s until almost a hundred years later, no one needed to consult a statistician to know that soda fountains were big business. All you had to do was duck into a corner drugstore—more than three-quarters of the apothecaries had fountains—and you were likely to be greeted by an imposing work of art in onyx, marble, metal and glass. Even the smallest fountains were as ornate as wedding cakes. Larger ones, with silver-plated spigots, Grecian columns and miniature statues of scantily-clad goddesses, evoked gasps of awe —and so did their prices, sometimes into the tens of thousands of dollars. Long before the era of mass-market restaurants, unabashed one-upmanship was the ethic of the fountaineer.

One spigot was often labeled "Don't Care"

In essence, these temples of the wet and bubbly were little more than marble boxes. Inside an early apparatus, ice was packed around syrup reservoirs and block-tin tubes that conducted carbonated water from the cellar where it was stored in cisterns. The business end was a series of spigots. In one long row across the bottom of later units were 6, 12, or as many as 100 flavor faucets, each engraved with the name of the syrup it pumped—standards like chocolate, lemon and sarsaparilla interspersed with less common delights like almond, claret, wintergreen and "Don't Care" (presumably connected to pineapple or whatever wasn't selling that week). Larger taps above drew pure carbonated water and a variety of artificial mineral waters—soda water spiked with mineral salts to match the sparkling "curative" waters of famous European and American spas (SMITHSONIAN, October 1984). "Selters," for example, referred to soda water doctored to resemble what was pumped out of the healing springs of Germany's Niederselters; now, as seltzer, the water has lost its minerals, and the term its meaning.

A story circulating in New York during the 1890s told of an elderly lady at the Seventh Regiment's gala fete. After walking solemnly around the base of the monolithic marble soda fountain and examining the faucet inscriptions—Geyser, Vichy, Clysmic, Deep Rock, Kissingen, Washington and Saratoga—she turned to the attendant and asked, "Did the gallant boys win all those battles?"

"Ma'am?" replied the astonished clerk.

"And the Seventh Regiment bled on all those battlefields," she said, turning away with a teary eye.

As an institution, the soda fountain was called "the national thirst quencher" not only for its scale but for its democratic appeal. Millionaires may have sipped champagne in hotel lounges while workingmen

Clerk adds seltzer water to flavored syrup at the fountain of a typical pharmacy of the 1870s.

quaffed beer at neighborhood bars, but the next afternoon they both ordered chocolate sodas at the drugstore counter. The soda-guzzling public knew no limitations based on age, but if any one generation considered the marbled environs of the fountain to be its own milieu, it was the teenage population.

It did not take long for the chroniclers of American culture to catch on. Strawberry was the flavor of choice at the drugstore in *Our Town* when Emily Webb confronted George Gibbs about his stuck-up attitude, while the ubiquitous stage manager, playing the part of the pharmacist, looked on. But romance usually prevailed at the fountain, and Thornton Wilder's play was no exception: George melted the girl's objections by confessing a yearning to walk her home from school —and marry her once they graduated.

It was on the silver screen that the soda fountain truly reached stardom. From the 1920s through the early '50s, the drugstore set was a Hollywood fixture. D. W. Griffith was one of the first to explore the fountain's possibilities: in his 1919 charmer, *True Heart Susie*, Lillian Gish is courted there weekly. W. C. Fields' *It's the Old Army Game* (1926) is facetiously dedicated to the American druggist. It was beside the fountain in 1938 that Mickey Rooney, as the quintessential teenager Andy Hardy, flirted with Judy Garland in *Love Finds Andy Hardy*. With the box-office success of the Hardy series, the list of fountain-featuring films grew at a phenomenal pace.

Hollywood was taken with soda-fountain action both onscreen and off. The real-life counter at

Visitors savor old-fashioned treats in the ice cream parlor at Smithsonian's Museum of American History.

Schwab's was the fabled hangout for young hopefuls and for Sidney Skolsky, the rotund, bespectacled reporter who wrote about them in his *Photoplay* column, "From My Corner in Schwab's." James Dean and Marilyn Monroe were said to have frequented the place before improved circumstances enabled them to move to more exclusive haunts. But the most famous—and probably apocryphal—legend spawned by Schwab's concerned a young brunette named Julia Jean Mildred Frances Turner who, as the story goes, was spotted sipping a soda by an editor of the *Hollywood Reporter*.

David Schwartz's articles appear regularly in these pages. He has written on subjects ranging from aphids and Morris dancers to Sears houses and weathervanes.

Soda fountain in the background has been restored in the flavor of the ones prevalent in the 1920s.

Soda jerk of the early 1940s wears classic white jacket and a big smile as he serves up a milkshake.

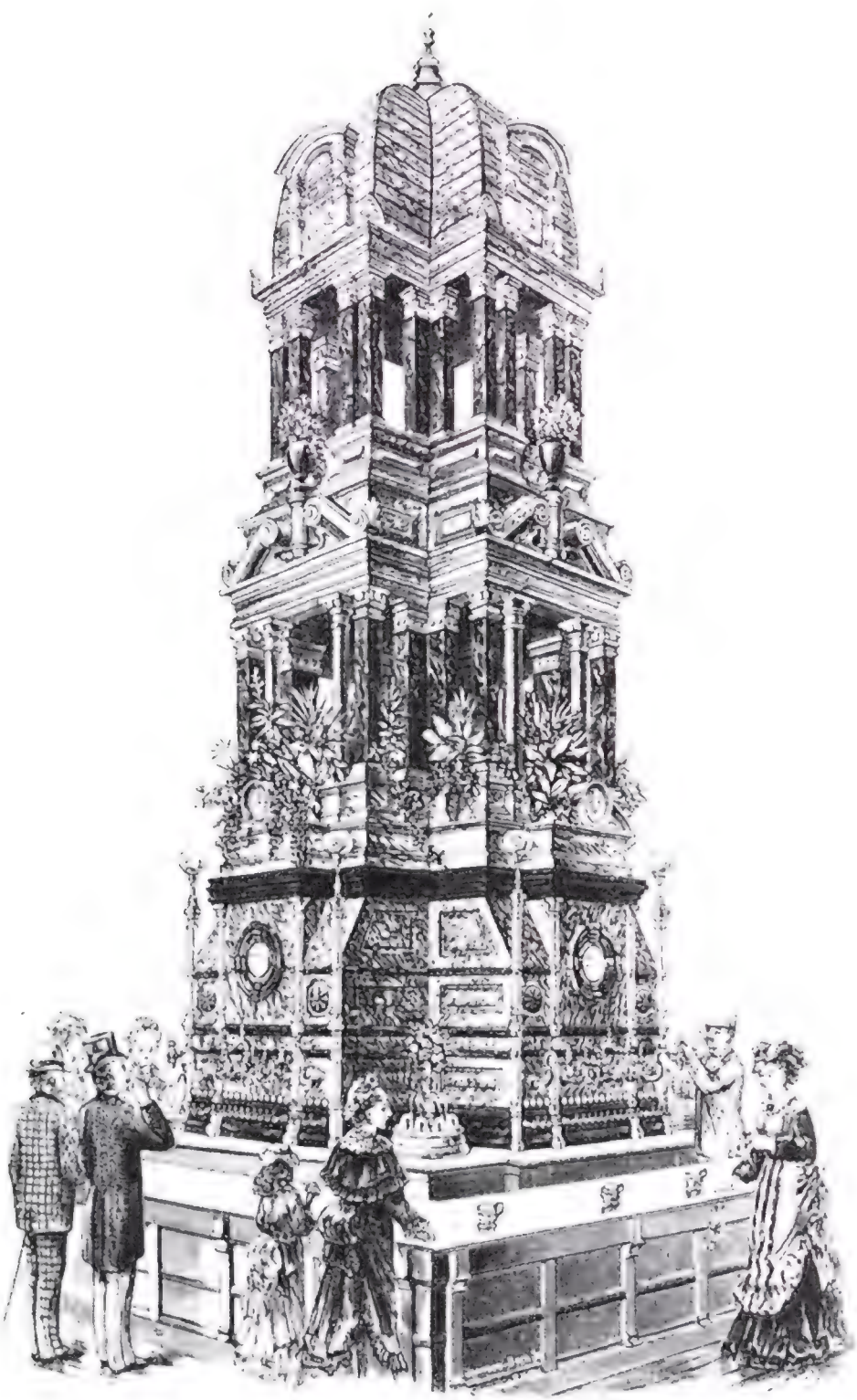
In short order, Turner's four given names were replaced by one: Lana. Garbed in a tight-fitting sweater (at a drugstore, no less), she appeared before millions in the powerful 1937 drama *They Won't Forget.*

If the fountain boosted show-business heroes, it also brought the nation a new genre of folk hero. Swift of hand, nimble of mind, dashing in appearance and charming to boot, the soda jerk came into his own as the big-city and small-town answer to the cowboy or the lumberjack. True, he (only occasionally, she) referred to manuals called "formularies" for the recipe of a Bonnie Belle Cream, Catawba Frappe or whatever happened to be in vogue that week, but still, soda jerking was high craft. The best of the craftsmen could flip a scoop of ice cream into a tumbler with a three-foot trajectory, deliver a wire-thin stream of fizz that raised an inch-high halo of luscious chocolate bubbles, and devise winning creations on command. But the most imaginative concoctions were linguistic.

"Shake a crowd of patch!" might be the command of one young attendant to another, or "Burn one and let it cackle!" In soda-fountain parlance, "a crowd" meant three, "shake" referred to a milkshake, and the flavor that grew in a "patch" was strawberry. "Burn one" was the standard call for a chocolate malted, but when an egg was to be added, the drink had to "cackle."

Picturesque, witty and occasionally racy, the language was deliberately exclusive—recognizable to those in the trade, but obscure to outsiders. The signal "Thirteen!" for example, translated to mean that one of the big bosses was around; "Ninety-five" was a deadbeat trying to get out without paying; and a "Saturday-night special" was a girl who could be dated easily on a Saturday night.

If the marriage of drugstores and soda fountains now seems an unlikely match, it made perfect sense during the fountain's youth because today's treat was yesterday's treatment. Consider the origins of—indeed the very name—"soda water." For centuries, the sick and suffering have been drawn to mineral springs where naturally carbonated water flows out of the ground, offering the hope of cure from constipation, indigestion, obesity and other ailments. In Europe, the spas attracted not only those who came to soak their ills—and those who came to soak the ill—but also a great number of physician-philosophers wanting to



The elaborate Centennial fountain was a major hit at the 1876 Philadelphia Exposition.

understand what made the waters sparkle. Their studies helped bridge the gap between ancient alchemy and modern chemistry.

Some tried to tame the *spiritus silvestris,* or "wild spirit," as the carbon dioxide bubbles were originally called, by instilling it in plain water. Credit for the first real success is generally given to the Rev. Joseph Priestley, who is also known as a discoverer of oxygen. In 1767, Priestley charged water with CO_2 by briskly pouring the liquid between two glasses held above fermenting mash in a brewery near his home in Leeds, England. The first glass of soda water was born, but not yet the name, which came about a little later when, to ease indigestion, bicarbonate of soda was added. Although Europeans continued to add sodium bicarbonate to sparkling water until the end of the 19th century, Americans soon dropped the additive. Which is not to say that the sparkling beverages lost their pharmaceutical luster in the New World.

Priestley's experiments were refined by others who used dilute acid to dissolve the calcium carbonate found in limestone, chalk or marble. The process released CO_2, which was then pumped into water. (John Matthews, a New York manufacturer of fountain equipment, bought all the scrap marble from the construction of St. Patrick's Cathedral in Manhattan and from it generated 25 million gallons of soda water. When he died, Matthews was interred in a 36-foot mausoleum that resembled a soda fountain.) Dr. Philip S. Physick, the University of Pennsylvania's first professor of surgery, added minerals to the water and sold it as a cure for obesity. Another doctor claimed that artificial Kissingen water taken alternately with Vichy water after meals would bring a person with "simple, uncomplicated over-fatness" down to "medium weight and stoutness."

America's first modern drugstore

With endorsements like these from physicians, it didn't take long for the pharmacists to realize a lively market. One of the first was Elias Durand, who had been an apothecary in Napoleon's army before moving to this country. In 1825 Durand got the idea that a shop specializing in medical supplies could do very well if it also sold sparking water. Thus, at the corner of Sixth and Chestnut streets in Philadelphia, Durand opened America's first "modern" drugstore, which featured mirrors, French glassware, mahogany display cases and an apparatus for vending carbonated water—a small urnlike affair that sat unpretentiously on the counter. Nothing more elaborate was needed to make Durand's establishment a social hub for the local scientists, physicians and literati.

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**Camry with 5-speed manual overdrive transmission. ©1986 Toyota Motor Sales, U.S.A., Inc.

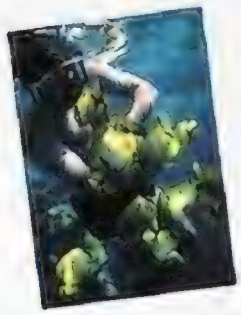
In the good old days of five-cent Coke in the early 1900s, ads heralded the drink's beneficial qualities. The women here are described as "all healthy and happy" because they are drinking Coca-Cola.

Eugene Roussel, had a brainstorm that raised the curtain on a new era in the history of carbonated beverages. Roussel's idea in the late 1830s was to bottle soda water of different flavors. His first offering was a lemon soda that he sold at the fountain of his perfume shop. Within a few years, soda fountains were incorporating an arsenal of syrup pumps into their increasingly ornate designs, and firms bottling flavored soda water were popping up around the country. The race to discover new flavors was on.

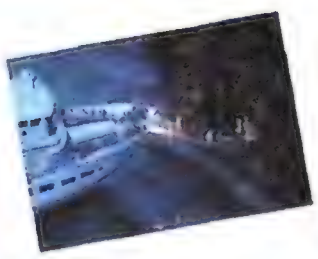
Sweet cream also made its way into soda water, and it was because of cream that one of the most celebrated marriages of fountain ingredients occurred in October 1874. At the semicentennial celebration of Philadelphia's Franklin Institute, a concessionaire named Robert Green was doing a brisk trade in drinks consisting of syrup, cream and soda water—until he ran out of cream. Unable to purchase more on the premises, Green hightailed it to a nearby confectionery shop and bought some vanilla ice cream, which he intended to melt and use as cream. But his customers were so impatient that he used the frozen product as it came—and they liked it. It took a few days for business to build. Daily receipts were $8 on the first day, but reached $400 before the exhibition was over. From then on, not only were ice cream and soda to be permanently wed, but their purveyors, the soda fountains and ice cream parlors, were to become virtually one and the same.

Two years later, even $400 a day would not have seen James Tufts of Boston and Charles Lippincott of Philadelphia into the black. These two fountain manufacturers paid the colossal sum of $50,000 for the exclusive right to sell ice cream sodas at the Philadelphia Centennial Exposition, then gambled on the fountain with which to do it. Everyday opulence wouldn't suffice. What they came up with for the nation's 100th birthday party was the most extravagant monument devoted to soda water since molecules of CO_2 and H_2O first made each other's acquaintance.

More than 30 feet in height, the fountain was housed in its own turreted three-story building. Only a small part of it had anything to do with soda water or ice cream. The second floor boasted a spouting water fountain that played perfumed jets against a background of ferns and exotics, while the upper story was a dome illuminated from inside by a chandelier and crowned with a staff that floated Tufts' trademark banner, Arctic Soda. Statues, globes and silver-plated or-



We walked beaches as secluded as Robinson Crusoe's. And we found few footprints.



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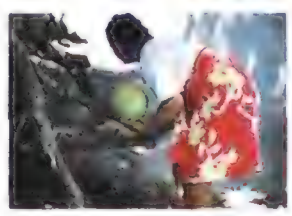

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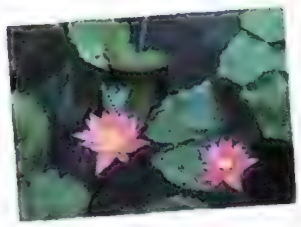

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"Oh merry Cherry Ripe," muses a sailor boy of 1894 in this ad for cherry-flavored soda.

naments adorned the marble structure, and a staircase enabled visitors to ascend the interior. All agreed that the gargantuan fountain was the first great advertisement for the soda-fountain industry.

What few realized was that the hoopla had just begun. While visitors to the Exposition were flocking to this fairyland creation, a far more modest exhibit hinted at a new trend in the industry. Selling 25-cent packages of dried roots, bark, herbs and flowers, Charles E. Hires seemed to be just another long-shot entrepreneur, but the beverage that could be made by following his instructions had unusual appeal. The drink offered at the Exposition was such a success that within a few years Hires Root Beer was on its way to becoming a soda-fountain staple. By 1892 more than two million bottles were being sold annually.

Soon after Hires got started, a Detroit druggist named James Vernor tampered with the standard ginger-ale formula and came up with a variation he found so salable that he quit selling pills and powders and devoted himself full-time to the drink. In 1885, a Boston company had the moxie to introduce a soda that was dark as mud and almost as strong, and call it Moxie. That same year, W. B. Morrison, owner of the Old Corner Drug Store in Waco, Texas, came upon a unique flavor invented by his pharmacist. He named it for his former employer, a doctor who had fired him for trying to date his daughter. Presumably the banished lover had hoped this honor would change Dr. Pepper's mind, but as it turned out, the beverage fared much better than the affaire de coeur.

More than just tasty coolers, such drinks were marketed to quench two major thirsts in the psychic appetite of many Americans. First, the fledgling soft-drink companies were quick to sound the ever-resonant chord of health and healing. The drinks may have been soft, but before enactment of the Pure Food and Drug Act in 1906, the advertising claims were plenty hard. Dr Pepper, then known as Dr Pepper's Phos-Ferrates, was touted as "Brain food, exhilarant"; Moxie was "Moxie Nerve Food"; Hartshorn's Root Beer Extract was "The great restorer of health"; while Hires called itself "The Best Blood Purifier in the World."

The benign successor to the saloon

Health had had an ageless appeal in the marketplace, but a new theme emerged in the last quarter of the 19th century as the advocates of temperance turned their convictions into a crusade. Towns, counties and entire states went dry, and the soda fountain emerged as the successor to the saloon. Even before local ordinances (and ultimately a Constitutional amendment) intervened, the national taste turned toward non-alcoholic thirst quenchers, a trend fueled vigorously by the soft-drink industry. In addition to painting consumers as the very picture of vigor, most manufacturers stressed their product's temperate nature.

Health and temperance convened with thunderous results for the soda-fountain handiwork of "Dr." John S. Pemberton, an Atlanta pharmacist whose portfolio included Globe of Flower Cough Syrup, Extract of Stylinger, Gingerine and other compounds he called "panaceas for a multitude of human frailties." After six months of painstaking experimentation, he came up with a syrup amply laced with extracts of two potent botanicals—coca leaves, long a staple of Bolivian Indians, and kola nuts, reputed to double the work output of West African "kola chewers." If the original Coca-Cola packed a small wallop of cocaine, well, maybe that was just what was needed for the blues. The important thing was that it contained absolutely no al-

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Eddie's Sweet Shop, in Forest Hills, New York, is a rare survivor from fountains' heyday.

cohol, a virtue extolled in its earliest ads, which called it "The Great National Temperance Drink."

Abetted by national advertising and aggressive sales forces, the soft-drink companies became indispensable to the fountaineers. Although they earned a smaller margin of profit on "patent" drinks like Coca-Cola than on generic flavors like raspberry, even the most skeptical soon succumbed. By 1902, Coca-Cola was the best-recognized product in America. Its meteoric rise benefited the soda-fountain industry tremendously and, bolstered by the gathering winds of Prohibition, business behind the marble counter sailed along better than ever into the new century.

When the Eighteenth Amendment took effect in 1919, many a cocktail lounge traded its bar for a soda fountain. (A few, it is said, specialized in ice cream sodas with a kick.) But the Prohibition years also brought a new technology that not only outlasted the Noble Experiment itself but reshaped the industry's very raison d'être.

From the beginning, ice had been used to cool the soda water and the syrups, salted ice to maintain the ice cream. It was a messy labor-intensive system that corroded hardware with a vengeance. Mechanical refrigeration got off to a coughing start in the early '20s, and despite a few hitches, soon became irresistible. For the fountain operator willing to expand beyond the realm of recreational eating, it opened a new world of possibilities. With only a few additions to his equipment, he could serve the whole meal, not just dessert.

Gradually, soda fountains turned into full-fledged restaurants. No longer the exclusive domain of the drugstore, fountains outfitted with food-service equipment moved into cigar shops, department stores, confectioneries, groceries—even into hardware stores. And the soda fountain luncheonette, an entirely new type of establishment, made its debut with liquid and solid food—but always served on short order. Americans had developed a penchant for high-speed eating.

World War II slowed things down considerably. With the young soda jerks drafted, sugar supplies slashed and the manufacturers of fountain equipment retooling for airplane parts, the war years were lean ones for lovers of lemon phosphates and black-and-whites. Afterward, the fountains made a comeback but never fully revived. Drugstores discovered that cosmetics, nylon stockings and convenience groceries earned better profits than handmade fountain treats—without any of the mess.

The complexion of the restaurant business changed, too, as a new kind of fast-food eating place began to spread across the landscape. Fountains required two separate operations for dispensing the soda water and the syrup—an egregious waste of time. And so, the soda fountain in its current incarnation is a squarish, soulless box that limply dribbles seltzer and syrup when a glass—more likely, a paper cup—is pressed against it. Today a few gleaming old gooseneck fountains have hung on in luncheonettes and candy stores, seldom celebrated and in some cases seldom used.

In recent years, ice cream "boutiques" have taken up quarters in the oblong storefronts that once housed elaborate soda fountains. So far, the emphasis seems to be on overpriced, ultrarich ice creams spiked with liqueurs and candy-bar fragments. I have even seen a New York ice cream parlor advertise egg creams made with Perrier.

Not far from that particular establishment, I found my brown cow. On Metropolitan Avenue in the Forest Hills section of Queens, I came upon Eddie's Sweet Shop (above), an elegant, if slightly frowzy, turn-of-the-century relic that has survived unscathed. Clearly, Eddie's was a rare find.

"Can you make me a brown cow?" I asked the man behind the counter. He immediately went to work while I swiveled a few times to test the narrow-stemmed stools. As I took a long, deep pull on the straw, I heard a young girl at a nearby booth order a root beer float, and it was a small letdown to see that her reward was identical to mine in every way. Just the same, I had absolutely no doubt that my brown cow tasted better.

Proverbial brown cow, which is sometimes confused with a root beer float, is hard to find. How now?

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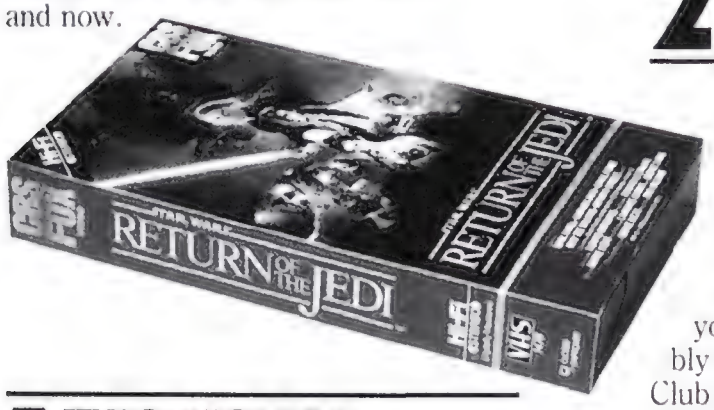

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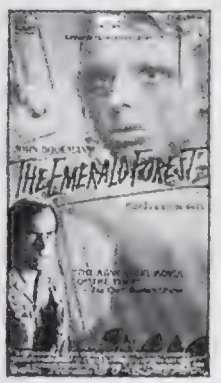

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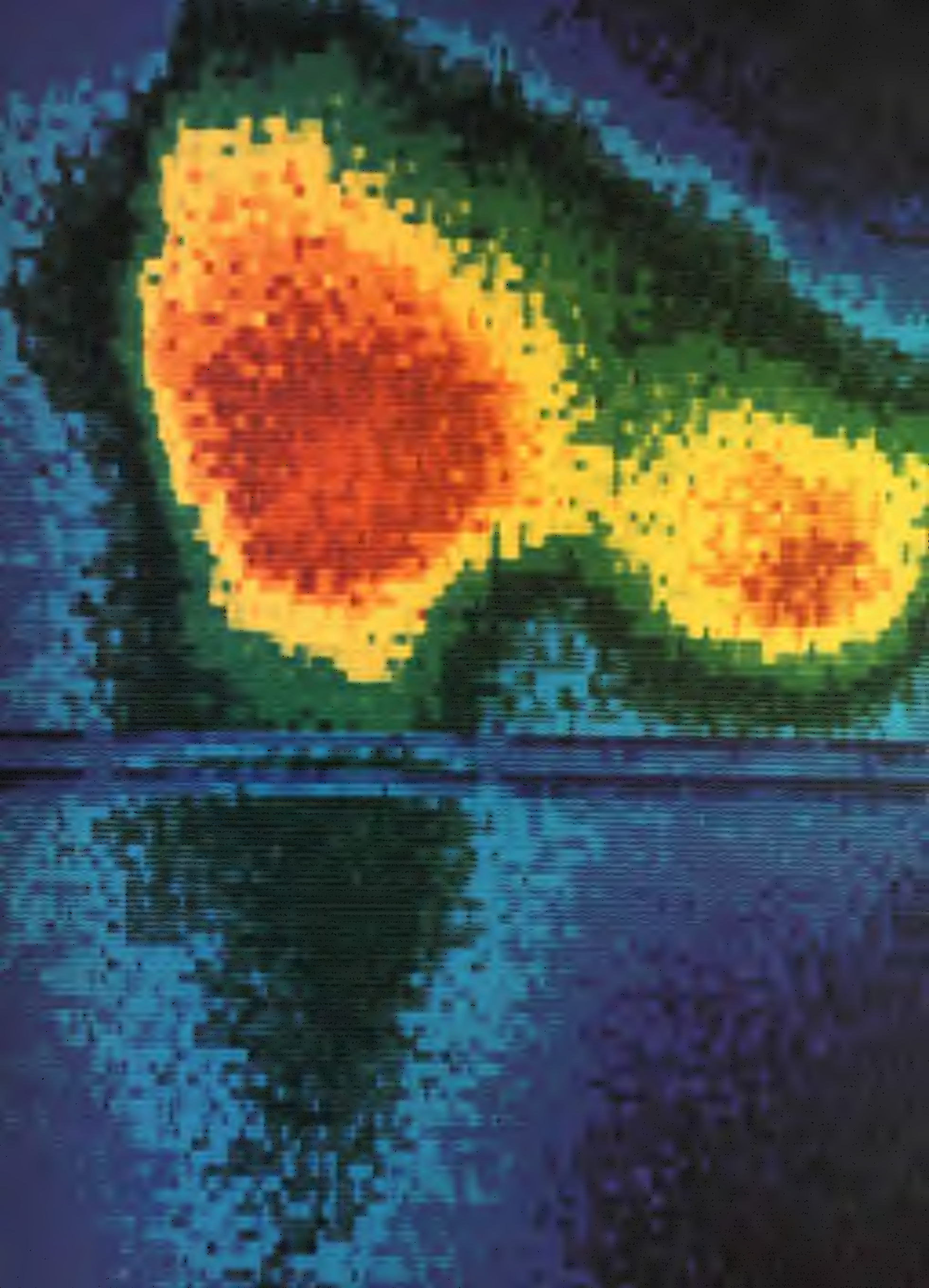


Computer-enhanced image of Halley's Comet from 5,000 miles (opposite) was the closest made by Vega 2.

In control room at Moscow's Institute of Space Research, scientists glimpse first images of the comet.

By Susan West

An encounter with Halley's Comet, done Soviet style

The Vega probe of our most famous visitor was a rare show of international scientific cooperation, in spite of a few bureaucrats

All I could think of was the yellow stripe. It was absurd: I was in Moscow for a remarkable space mission, the rendezvous of two Soviet spacecraft with Halley's Comet. With eight others, I would be among the few American science writers to watch a Soviet mission unfold. In a country that announces its achievements only after they succeed and shields its failures like the Chernobyl accident in silence, this was a big deal.

But the big deal at the moment was getting a yellow stripe. It was two days before the first craft would fly past the comet. We had just been welcomed to the Soviet Space Research Institute by Natasha Yelshina, a translator for the Institute and a warm woman with big brown eyes. In no apparent order, she handed us security badges. Most bore a diagonal yellow stripe. Mine didn't.

"What's that yellow stripe?" I asked.

"So, please come this way," Natasha answered, walking upstairs.

There had to be something special about those yellow marks. I'd been in Moscow less than 24 hours and I was already paranoid. I had been warned.

Don't expect too much, one American space scientist told me the week before the encounter. Be polite, but be a squeaky wheel, he said, and expect to accomplish only half of what you want. Expect to be impressed by the international cooperation, it's something the Soviets do far better than the Americans, said another. The first prediction was coming true. And the second, as the remarkable week of multinational science proved, would too. "Expect everything to be gray," said Fred Whipple, the Harvard-Smithsonian Astrophysical Observatory scientist who first described comets as dirty iceballs. "And don't forget to take your own soap."

Whipple was right on both counts. The Space Research Institute building was the same dingy gray as the five-foot banks of old snow piled in front. Featureless, it was a block long and six stories high. Paint peeled from the overhang above the entrance. Dead plants lined the windowsills. Inside, it resembled a worn 1960s American high school, with open staircases and gray cinder-block walls. Between each of the main floors was a sort of half floor, called a "technical floor."

The elevators didn't stop on those floors, and there were locked iron gates at the top of the stairs that led to them. Prominently displayed civil-defense posters, drawn in 1950s style, showed mushroom clouds, the treatment of radiation burns, how to put on a gas mask. On certain doors there were two blobs of sealing wax, one on the door and one on the jamb, with a piece of string hanging from one of them. It was the same kind of security device that James Bond used when he hung a hair across the doorjamb as he left his room.

Natasha escorted the stripeless reporters down a hallway. "And so, we have a press room where you can sit and see what is going on," she said a little too brightly. I looked back to see the others entering a large, busy room marked "data display room."

Beginning to worry seriously, I

Roald Sagdeev, head of Space Research Institute, ran unusually open show.

asked, "Why do some badges have yellow stripes?"

"So, perhaps you will share the badges with your colleagues," she said. It was clear that she didn't understand that the bourgeois press is not disposed to "share" anything.

I tried again. "What do the yellow stripes mean?"

"So, I am told," Natasha said, "that perhaps tomorrow or after the first encounter, you can get them."

Many questions later, it became clear that in order to have free run of the Institute, I needed a yellow mark. But other than the data display room, I couldn't figure out which rooms I couldn't get into and which ones I could; I didn't even know if I wanted to get in the ones I couldn't. I didn't know why I hadn't got a stripe in the first place. But I knew I had to get one.

Deciding I'd been squeaky enough about the stripes, I asked if she was the person who could set up an interview with Roald Sagdeev, head of the Space Research Institute. He's very busy, Natasha said. But is she the person to ask? She would have to check.

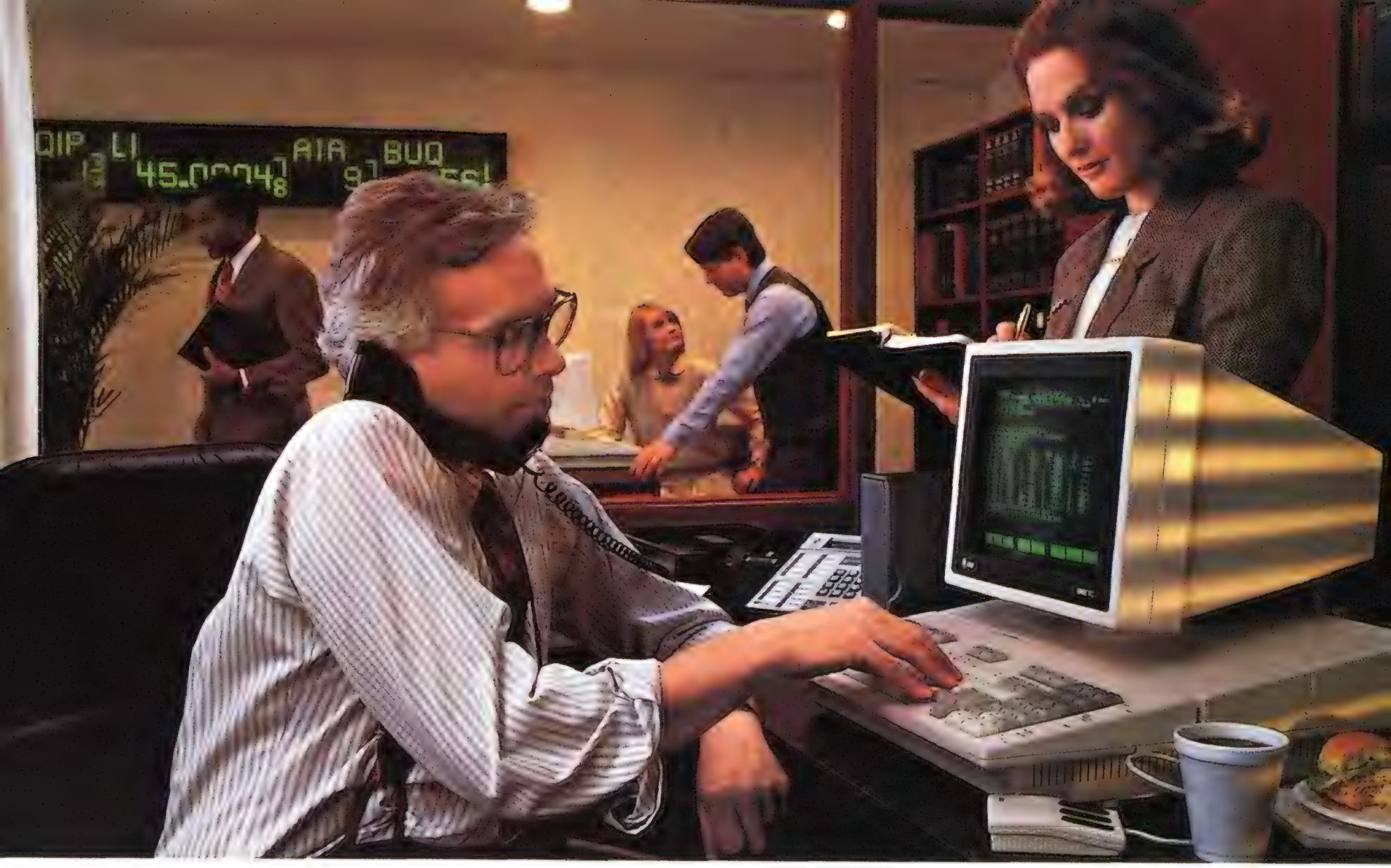
Free-lance science writer Susan West was among the American reporters invited to witness the Vega encounter.

I tried to relax. Stripe or no stripe, it was going to be quite a week. In the comet's 30 recorded visits, this would be the first time Earthlings would send a welcoming committee. After a rendezvous with Venus, the Soviet twin probes, Vega 1 and Vega 2, would brush less than 5,600 miles from Halley's sunward side on March 6 and 9. Two Japanese spacecraft were to sweep upwind of the comet on March 8 and 11. On March 14, the European Space Agency's craft, Giotto, would dash within 370 miles of Halley's core.

Researchers were hailing the cometary fleet, and the Vega mission in particular, as an exemplar of international scientific coordination. The Vegas carried instruments designed and operated by researchers from Hungary, Bulgaria, Poland, Austria, Czechoslovakia, West Germany, East Germany and France. With the United States mainly a supporting character—the University of Chicago's John Simpson (p. 132) provided a novel instrument to analyze cometary dust—this was a chance for the rest of the world to strut its space stuff. And, coinciding with the 27th Congress of the Communist Party of the Soviet Union, it was well timed to highlight Soviet strength in the space sciences.

It was clear I wasn't going to get anything done at the Institute that day, so I visited a nearby monument to Soviet space exploration, a small silver rocket thrusting 30 feet skyward on a curving trail of exhaust, with a small museum in its base (p. 142). The tour group passed between rows of burbling red and blue lava lamps and walked toward a ten-foot cosmonaut, his arms outstretched in benediction. Celestial music swelled. The spiel was in Russian, but it was easy to understand: the Russians were the first to put a spacecraft in orbit, first to put a man in space, first to walk in space. The tour ended with a slide show that depicted the birth of the solar system and its possible destruction—by American nuclear bombs.

"So, I am very sorry," Natasha said



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Drawing of Vega probe shows sphere that was dropped on Venus, on way to comet.

when I asked the next morning about my stripe. She was sorry again, there was no word on an interview with Sagdeev. "But I was told that today you may visit the control room."

At last I'd finally see some action. Long and high-ceilinged like a warehouse, the control room featured a full-size industrial-green model of a Vega spacecraft at one end and a copy of a balloon dropped on Venus at the other. In between were rows of computer terminals and a buzz of French, Hungarian, Polish, Russian, German and English.

The purpose of the Vega mission, explained Vladimir Krasnopolsky, a senior scientist at the Institute, was to study the comet's icy core, the nucleus. It would be a first; no one had actually seen a comet's heart.

"My instrument," he ducked his head and smiled with shy pride, "is the three-channel spectrometer. Our goal is to study the gradual evolution of material given off by the comet to see how it changes with distance." He paused. "It is not working on Vega 1." He momentarily looked lost, making this candid admission.

"So, please, hurry." It was the next morning and Natasha was nearly in tears. She grabbed my wrist and hauled me up the stairs. "I am sorry. I did not know that the time of today's session was changed," she explained as we hurried to the conference room where the final leg of Vega 1's journey was being broadcast.

She took three of us to a man sitting at the back of the conference room. He reached inside an attaché case and handed her two translation headsets. She bargained with him for another and lost. "You can share with your colleagues," she said to me. Just like the badges, I thought. The thought must have occurred to her, too, because in a few minutes she grabbed me from my seat and made me follow a man back to the headset dispenser. Apparently he had more pull. He said something in Russian and pointed to me. I got a headset.

Not that the translation helped much. Over the loudspeaker, there were two voices talking in Russian; one asking questions and another answering. But the simultaneous translation didn't identify the questioner or respondent, so what we heard sounded like a bizarre internal dialog: "Any of you see the brightest points? They do not see the brightest points. There are two bright points. The reading is unusual, very strange, we have not seen this before." Countless times, the voice took us to the brink of discovery and left us hanging. I tuned out and looked around.

On a stage in the front of the room were two large television screens showing flashy, changing data charts and a false-color red ellipsoid surrounded by bright rings—the comet. The room was dark; more than a hundred scientists from a dozen countries hunched forward, listening. For a moment the data charts disappeared from the right screen and we glimpsed Sagdeev and the principal scientists seated in a dark, official room, a round table bearing the flags of the participating countries. It was the forbidden data display room.

The Russian voices from the loudspeaker became more excited. Vega 1 would soon be at its closest point to the comet. Fred Whipple, wearing a tie with a comet blazing across it, got down on his 79-year-old knees and took a picture of Halley's image on the screen.

"The red region is three to four kilometers. Is it the nucleus? It is evidently the nucleus," came over the speaker, along with applause, and the conference-room observers started to clap as well. Over the speaker: "No applause yet. . . . This is the minimum distance to the nucleus." More clapping. Vega 1 was a hit.

Again from the speaker: "Congratulations to the leader, Academician Sagdeev. . . . Join me to express our congratulations with loud applause." There was sustained applause in both rooms. "Comrades," said Sagdeev in the data display room, "this break in this businesslike atmosphere was not planned. We are still working and will be analyzing." There were felicitations from all the countries' representatives. The U.S. delegation called the mission brilliant. A European Space Agency scientist said international cooperation was a lesson for

John Simpson (left center) sees controls for his experiment, with colleagues.

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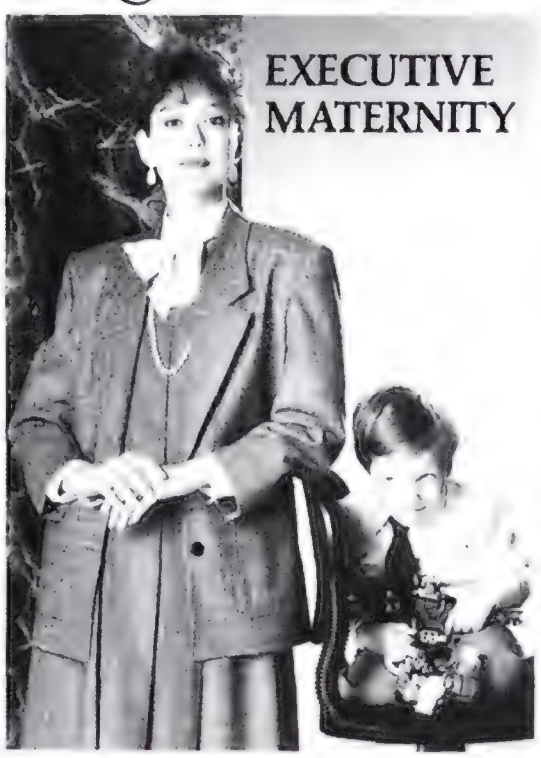

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Two Czech scientists follow the data as Vega spacecraft approaches the comet.

the future. One of the Germans congratulated himself for helping think up the idea. The Poles congratulated the 27th Party Congress.

Later that day, Natasha pulled me aside to assure me she was still working on the yellow badges. I didn't have the heart to tell her we stripeless ones had done an end run and sent a note directly to Sagdeev, figuring he could fix anything. Also, she said, she was told that Sagdeev would see me in the morning.

Walking into Roald Sagdeev's office was like discovering a new planet. The furniture wasn't chipped, the carpet wasn't worn and lumpy, the plants were alive, warm sunlight and a soft humidity came in from the adjacent winter greenhouse.

Sagdeev is as different from the other Soviets we met as his office was from the rest of the Institute. He is kinetic where they are passive; his eyes sparkle where theirs are guarded; he moves freely and confidently where they are restrained. Short, with tinted, dark-rimmed glasses, he looks like Burgess Meredith with the mad humor of Peter Sellers in his eyes. A comet blazed across his tie, too.

His secretary brought in thick Russian coffee and a bowl of liquor-filled candies. "This is contraband," he said mischievously, referring to Soviet leader Mikhail Gorbachev's recent crackdown on alcohol.

Then he was all business. "Now Vega 2 is approaching the comet and Vega 1 is leaving it. Vega 1's solar panels were damaged, we lost 50-percent power. Several instruments, for example, the plasma-wave detector that was outside the dust shielding, are functioning at 50-percent capacity.

"As far as the nucleus, essentially the scientists are very divided into two camps. One group thinks they see a rock in the center. The others believe that a dust blanket covers it."

He went on to describe how the project came together. Then, snatching up a card from his desk, he said, "Did you see this invitation to the American Embassy tomorrow night? See what it says: 'A reception at the American Embassy in honor of the encounter of the Soviet Vega satellites with Halley's Comet.' Remarkable."

At the scientific session and the press conference that afternoon, Sagdeev reveled in his triumph. He fired questions at the team leaders as they reported their results; he prompted the ones who droned on too long; he called on opposing opinions when he detected dissension. He constantly conferred with the other primary investigators, bouncing back and forth between the meeting room and his office, taking long strides, his body leaning forward. And he never missed a chance to take a dig at President Reagan's "Star Wars" weapons system, the Strategic Defense Initiative.

Polish and Hungarian specialists confer as mission uses international expertise.

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"The kinetic energy of the dust killed the vehicle," he said at the press conference, referring to the damage done to Vega 1 by the dust particles. "That is taken from the SDI dictionary," he added. His eyes were merry.

I hadn't been prepared for Sagdeev. What I knew of Soviet science, even their achievements in space science and mathematics, didn't allow for him. The Soviets emphasize the appearance of correctness and agreement; public dissent and discussion among scientists are not acceptable. In a culture set against free exchange of information, researchers are insulated from each other and from the international scientific community.

The Vega project—its innovation, its openness to the press, its international camaraderie—contradicted all of this. And the reason was Sagdeev. As a scientist he is well known in the field of plasma physics, the study of ionized gases such as the ionized wind of particles that stream from the sun. Now 53, he was only 36 when he was named to the Soviet Academy of Sciences, and he's been director of the Space Research Institute since 1973. His American friends, of whom he has many, say he has always been very outspoken, scientifically and otherwise. Despite this, and even though he is married to a Jewish woman, he apparently travels freely and frequently in the West.

"Sagdeev wants to be Western," said Arne Richter of the Max Planck Institute. "Before, the Soviets would launch, wait until they were in space and if they did well the results were announced. Vega was completely different. Sagdeev is also very cheeky. In one of our sessions he even quoted *Animal Farm*—'All animals are equal. But some animals are more equal than others.' And there is always the KGB there, you know. He gets away with it because he's a brilliant scientist and the director of such a big institute. He is very bright and good at selling things."

Somehow Sagdeev has found a way

to flourish in a system that would seem to repress spirit and drive. Maybe he is protected by his brilliance or by his role as Gorbachev's advisor on the U.S. Star Wars program. Maybe his star is rising in the current climate of candor and technological development. Maybe it's the way he mixes, like a deft bartender, the perfect blend of politics, science and humor, as he did at the American Embassy reception. When Carl Sagan alluded to the arms race, saying he hopes the human race will be around in 2061 to see Halley's next appearance, Sagdeev took a piece of wood from his pocket and knocked on it. "See what comets can achieve," he said.

It was the morning of March 9, the day that the second spacecraft, Vega 2, would whirl past Halley's Comet. And I was ready for it; I finally had my yellow stripe. Our end run had worked. I walked confidently to the door of the Strangelove Room, as we had started to call the vaguely sinister data display room.

The wiry doorkeeper halted me, indicating he wanted to see my official invitation card. He pointed to it, grinned and waved me away. My card, as it turned out, was printed in blue ink; the correct cards were in green ink. Apparently they had changed the rules, and the stripes were no longer part of the game. I

East Germans huddle over a computer; they advised against hasty conclusions.

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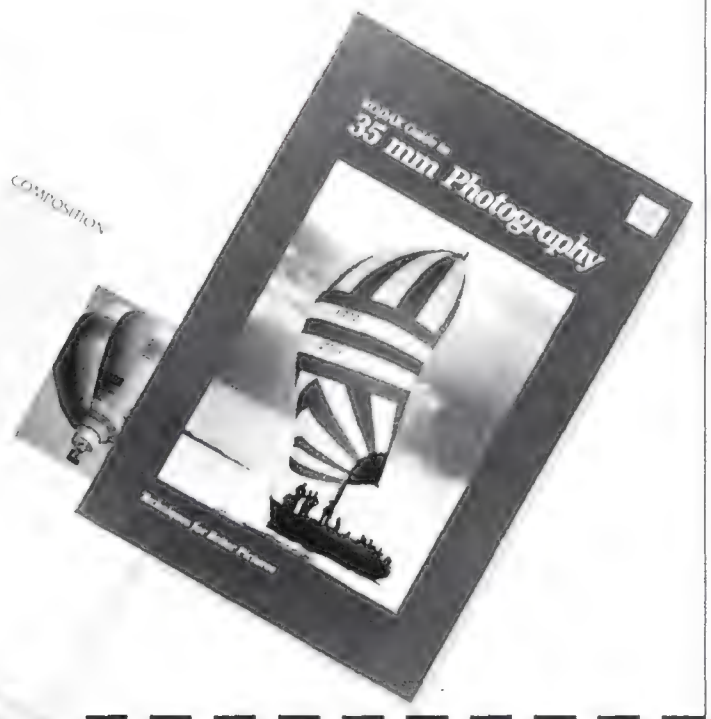

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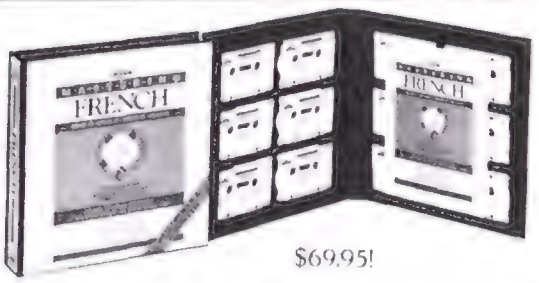

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thought about throwing an Ugly American tantrum and decided it wasn't worth it. I hadn't missed out on anything, after all. In fact, I'd been given more access to the scientists and the Institute than I ever expected—even more than I would have had at an American space encounter. The whole thing was meaningless. It was Russian. They won.

The conference room was about half as crowded as it had been for Vega 1's debut. The left screen showed the instrument data and the right showed the comet in bright computer colors —like a squashed onion with garishly dyed layers.

The images were very different from those Vega 1 took. The center of the comet was extremely bright, so that the nucleus' image was washed out. The irregular onion was briefly replaced by a peanut shape that looked like it was melting at one end. Vega 2 approached and then swung past the comet, but there was no applause. Something wasn't right. Steve Larson of the University of Arizona left the room muttering.

In a data room on the third floor, Larson and Whipple talked with some of the technicians on the camera team. Whipple seemed angry; something was definitely wrong. Larson explained: "The center part of the comet was overexposed. Possibly the microprocessor that controls the exposure wasn't working." It meant the scientists would not see the nucleus. Whipple and Larson headed off to find out more.

The microprocessor had indeed failed inexplicably. As a result the comet's core was overexposed in nearly all the images; only the melting-peanut picture, showing a darker area around the nucleus, accidentally turned out right. And it seemed too odd to be believed.

On his way into a science briefing a few hours later, Sagdeev apologized for not being able to explain at the time what was happening to the camera. Vega 2's solar panels had suffered about twice as much damage as Vega 1's, he remarked, although the malfunctioning microprocessor had mysteriously come back on again after passing the comet. His eyes dancing and the comet on his tie shining, he said, "The randomness of the damage is what our American colleagues call Russian roulette."

By the next day, the scientists were triumphantly comparing the peanut picture to a famous image the Voyager 1 spacecraft took of Jupiter's moon Io, unexpectedly revealing a monstrous sulfur volcano: this is *the* picture, they were saying, and we got it purely by chance.

Back home, we heard, the newspapers had mistakenly published a 1910 photograph of the comet as a Vega image. But in Moscow, the talk was only of this weird new picture and of whether the unequal lobes it showed were two nuclei, parts of one, or the nucleus and a large dust jet. Karoly Szegö, the Hungarian head of the camera team, said: "I think the comet is a living thing. I can't think why else the microprocessor would go out. Maybe it's only because it went out that we got the correct exposure for the nucleus. I also want to thank the comet for turning the microprocessor back on. It did that just to prove that it was the comet, not a malfunction."

At a meeting the next day, the camera team seemed convinced that Halley's core was definitely a bilobed object, with one lobe considerably bigger than the other. In fact, it is more like a nine-mile-by-five-mile Idaho potato than the four-mile-diameter ball most scientists expected. It is also much darker than most thought likely, a hurtling lump of coal hidden in a glowing cloak. That means Whipple's iceball (which also contains dry ice) is actually coated with a dark layer of debris. And the comet's glowing surface appearance comes from discrete gas-propelled jets rather than from a general boiling-off of its outer layer. The results were not

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entirely scientific: "I think I represent what this mission is all about," said Asoka Mendis, of the University of California, San Diego. "I was born in Sri Lanka, I'm a U.S. citizen, and the Hungarian co-investigator on the Soviet-Hungarian-French spectrometer. There is a level of international cooperation that the man in the street is just not aware of." The Vegas had accomplished their mission.

At the euphoric Soviet reception that night, the reporters gathered around Natasha, giving her small gifts, thanking her for her help, posing with her for souvenir pictures. We all said she should come visit the United States. She put her arm around my shoulder and I put mine around her waist. Under her loose jacket, I felt a little box, just the size of a tape recorder, attached to the small of her back. She posed for one more picture and then hurried across the room.

The box on Natasha's back is like the nonsense with the yellow-striped badges. It's what we've been taught to expect from the Soviet Union: paranoia, frustration, controlled information, oblique answers and ultimately meaningless rules.

But I'd glimpsed another side of things, too. It occurred to me the next night when I went to the Moscow circus, a marvelous flash of vivacity and color in an otherwise muted city. At the end, the lights went down and four "cosmonauts" in glowing white space suits floated and tumbled overhead. Then two more glided out hold-

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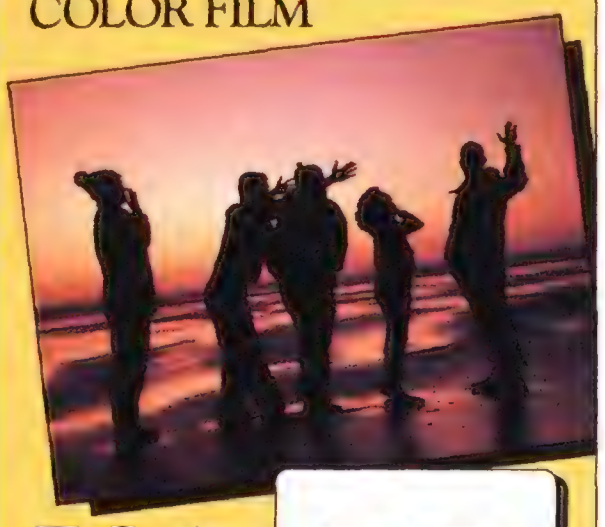

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ing a banner that bore the Vega logo.

The spectacle was like the Vega mission itself. With Sagdeev as ringmaster, the whole world watched as the scientists mingled and wrangled openly, and heard candid talk about the glitches and damaged instruments as well as the triumphs. It was both flashy and skillful, and first-class public relations. For whatever inconveniences our little press corps may have suffered, it was clearly an extraordinarily satisfying and fruitful event for the scientists.

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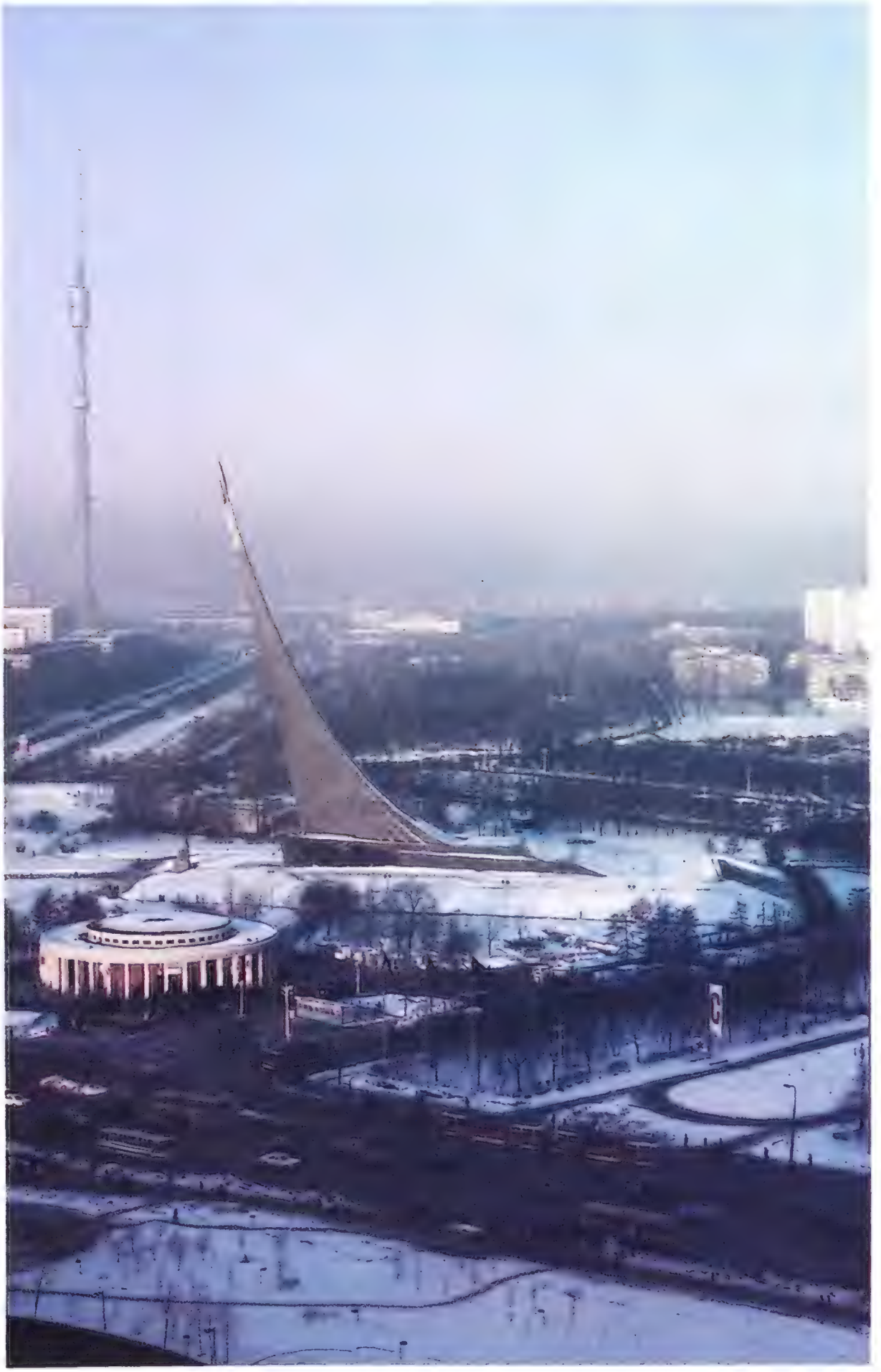

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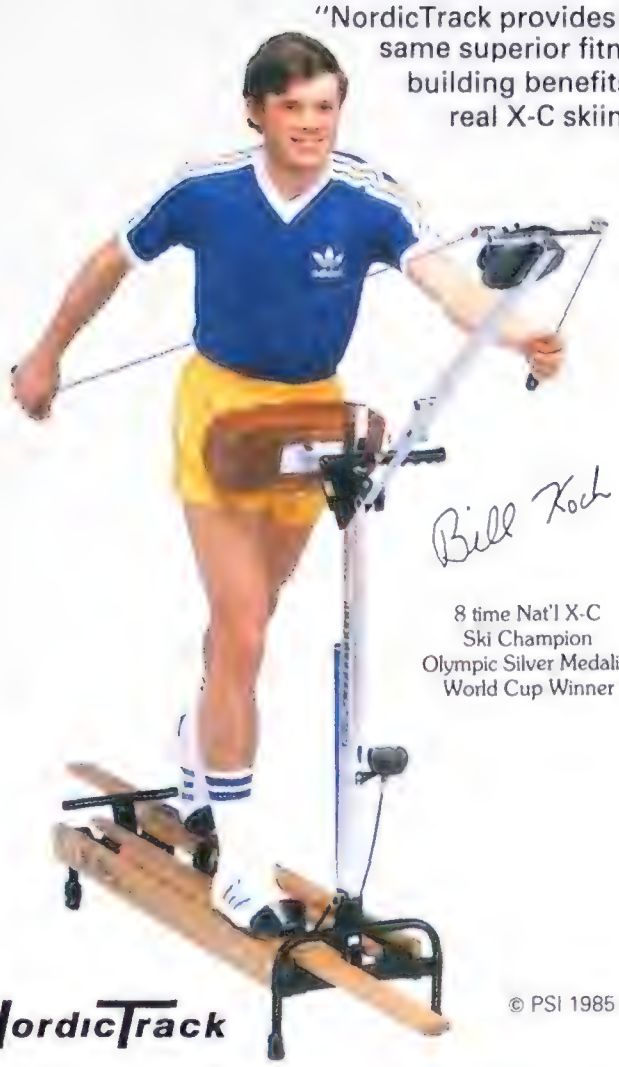

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Random House, $19.95

For anyone past middle age the career of V.S. Pritchett offers both inspiration and discouragement. Inspiration because Sir Victor has accomplished so much of his most notable work—biographies of Balzac and Turgenev, some of his finest stories, a lot of the literary criticism for which he is renowned—during years when most writers would have retired to the country to keep bees. The discouragement sets in because at 85 his prose still proceeds with unabated clarity, force and assurance, his mind seemingly as eager for work as ever.

A Man of Letters provides a good introduction to the critical side of a protean talent. In some 40 essays, drawn from as long ago as the 1930s and as recently as 1984, Pritchett demonstrates his virtually unrivaled grasp of world fiction, from Stendhal to S.J. Perelman. Who else, outside the academy, has read *Clarissa* (possibly the longest novel in English), Scott and the Victorians by the crate, nearly all of Balzac's *La Comédie humaine*, the Russian novelists entire, and brought sympathetic attention to such special talents as R.S. Surtees, George Sand, Lesage and Thomas Love Peacock? Moreover, not only has Pritchett read these writers, he has reread them: of the oft-scorned Arnold Bennett, he observes, "I return to him often and always, once I get into him, with satisfaction." He could obviously say the same about most of the writers in this book.

As a critic, Pritchett's virtues derive from his status as a literary entertainer, one of those who earn their "bread and butter by writing for the periodicals. . . . If we have one foot in Grub Street we write to be readable and to engage the interest of what

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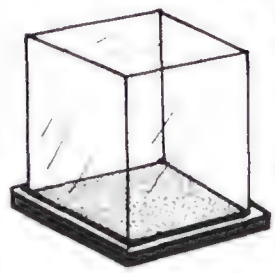

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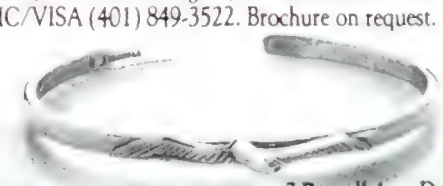

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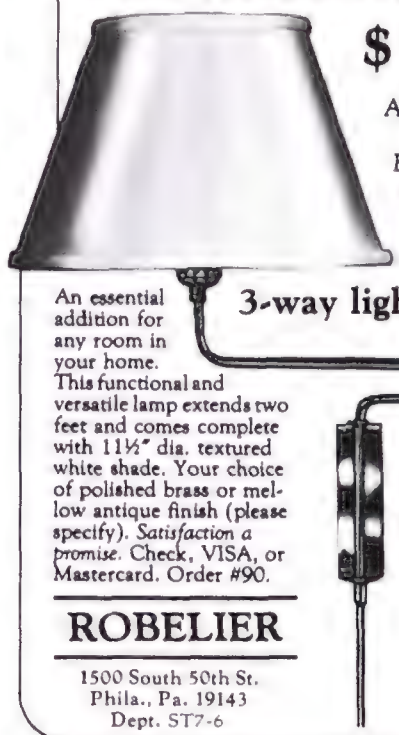

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V.S. Pritchett's 50 years of writing: unabated clarity, force and assurance.

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In these pieces Pritchett typically composes either a portrait of the author (often as an eccentric or cultural type: see the essays on Sterne, Lewis Carroll, Waugh), or he focuses on one or two books which he seeks to illuminate. He does posit a certain familiarity with his subjects; the essay on George Eliot, for instance, skirts the life and career entirely. Instead he supports with argument and example his belief that "No Victorian novel approaches *Middlemarch* in its width of reference, its intellectual power, or the imperturbable spaciousness of its narrative."

Because Pritchett is also a short-story writer of genius, his criticism carries some of the force of fiction. He sweeps the reader up in his opening sentences: "The spell imposed by George Sand on European and Russian readers and critics in the nineteenth century is understandable; her people and landscapes are silhouettes seen in streams of sheet lightning." The style favors an easy-going narrative voice punctuated by wit raised to aphorism. "Mr. Day was a perfectionist; he not only believed in the perfectibility of man which is arguable, but he also believed in the perfectibility of women, and women take unkindly to the notion that they can be improved."

Such perception graces nearly every page of *A Man of Letters*. Listened to at length, however, the Pritchett voice may

seem a little too even-toned; and occasionally a reader will long for the crotchety roar of Edmund Wilson or the off-the-cuff brilliance of Cyril Connolly. About this latter Pritchett writes especially well—but then, about whom doesn't he write well? His essays on the Portuguese Eça de Queiroz and the Viennese Robert Musil's *The Man Without Qualities* are masterpieces of critical appreciation: "In managing scenes of physical love, [Musil] has not been approached by any writer of the last fifty years" and his portrait of Arnheim remains "by far the most cogent and exhaustive study of a millionaire magnate's mind that I have ever read."

Considering the number of books V.S. Pritchett has read, that's saying something.
Michael Dirda
Editor at *Washington Post Book World*

Tracking Marco Polo
Tim Severin
Peter Bedrick Books, $15.95

In 1271 Marco Polo, then a teenage boy from a prominent Venetian family of traders, set out with his father and uncle to do business at the court of Kublai Khan in China. The Great Khan soon took a liking to young Polo. He employed him in domestic administration and sent him on distant missions. Knowing the Khan's fascination with tales of travel and adventure and with details of exotic people and strange customs, Polo kept a journal of his discoveries on the road. Eventually he became the first traveler to trace a route across the entire longitude of China. His journals were published as *A Description of the World*, now known as *The Travels of Marco Polo*, and to many people of his day they seemed nothing more than bizarre fairy tales, too fabulous to be true.

Nearly 700 years later, in 1961, an Oxford undergraduate named Tim Severin decided to fulfill his boyhood dream of following Marco Polo's footsteps from Venice to China. By using Polo's journals as a guide, Severin would try to follow his complete trail across Turkey, Persia, Afghanistan, over the Roof of the World and across China, seeking out places Polo had named and described in his journals with the aim somehow of doing justice to Polo, "whose writing had so often been maligned for lack of accuracy."

Tracking Marco Polo is the story of that remarkable expedition, which Severin mounted with two equally innocent yet intrepid young Englishmen, a classmate at Oxford named Stanley Johnson and a photographer named Michael de Larrabeiti. Published in England in 1964, the book is only now making its first appearance in America. In the intervening years Tim Severin has written several other books on the history of exploration, most notably *The Sindbad Voyage* and *The Brendan Voyage*.

Severin's story of "The Marco Polo Route Project" (as it was impressively named) proves an entrancing blend of hilarity and high adventure, chaos and revelation. From the start the project is woefully underbudgeted and ill-prepared. The only time available for it is an upcoming summer vacation from school, when the weather will be hellishly hot. The travelers decide wisely to use motorcycles for transportation. This will make them "a highly mobile group living much closer to the local conditions than our detached luxurious cousins on four wheels." And yet not one of them knows how to ride a motorcycle; all efforts to obtain driver's licenses prove unavailing; and in the end the expedition must leave England surreptitiously to avoid

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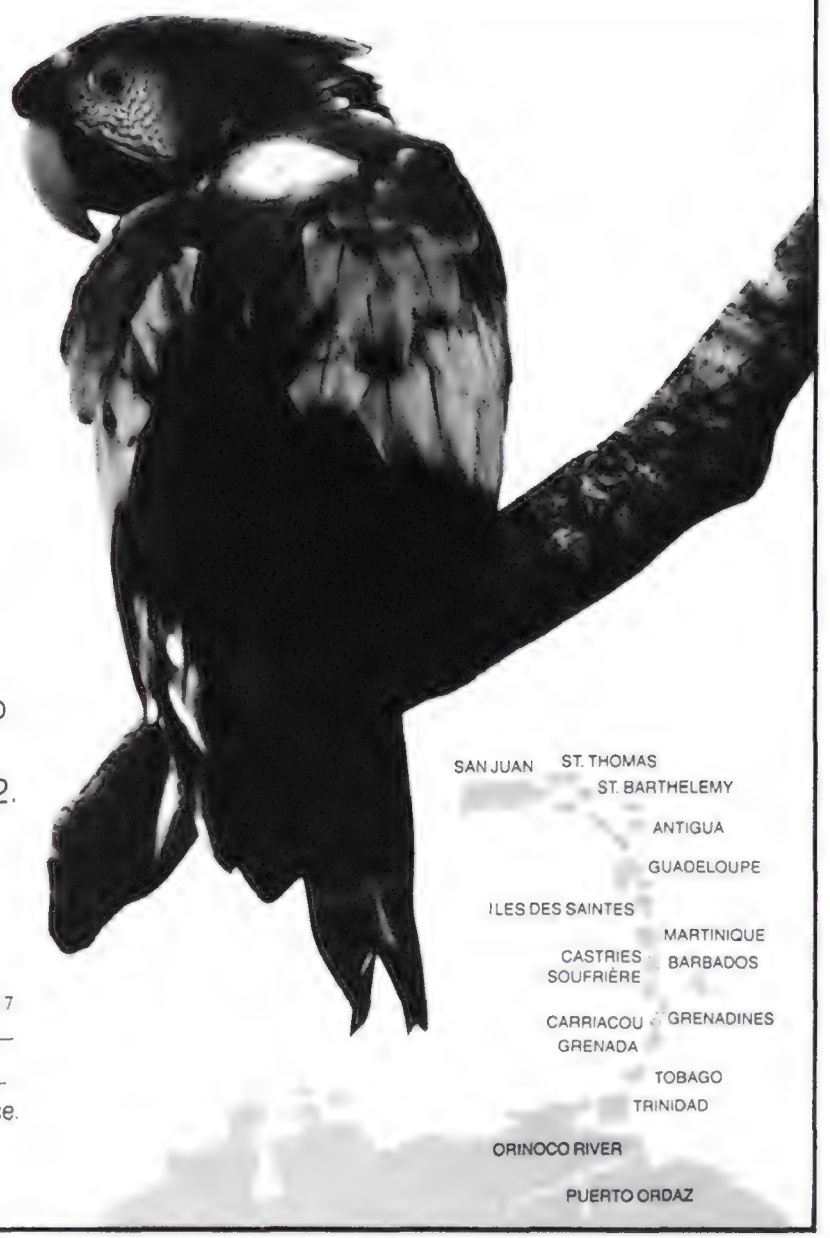

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the police. Among the numerous, ignominious crashes suffered along the way is one in which the author breaks his foot, nearly ending the trip.

And yet, almost in spite of itself, the expedition proves a triumph. In large part this is due to the astonishing capacity the expedition members show again and again for making friends, going native, roughing it—and doing so with grace and irresistible charm. "We drank direct from scum-covered ditches," the author relates, "and gladly accepted whatever food was available in the meanest surroundings."

Traveling remote and primitive roads, coping with heat and dust and such ordeals as attacks by "huge half-savage mastiffs wearing heavy leather collars studded with long rusty nails," the three explorers go bravely searching for signs of Marco Polo's world. In Armenia they make one of their most memorable finds.

In his journals Polo had praised Armenia for having "the finest hot baths and natural springs to be found anywhere on earth." It is with these words in mind that the three explorers stop one night on a marshy piece of ground between two plateaus off the Old Silk Road, deep in a remote stretch of Greater Armenia. They can smell sulfur in the air. In the darkness they make their way to a broken-down mud building that looks like a derelict temple. And inside it, with water the color of "an unattractive turgid yellowy-brown," warm and fizzy and perfectly clean, is a bath.

In the morning the three return for a swim and stay the entire day. "Lounging there," writes Severin, fantasizing on a grand scale, "in and out of the shafts of sunlight which streamed in between the polished wooden pillars which supported the roof, we felt like Roman Senators relaxing in the splendour of their own famous baths, and we could understand how for Marco such places were vividly remembered after the long weary days of plodding along the flea-bitten caravan routes."

The expedition ends abruptly in Afghanistan when permission is denied to visit the Forbidden Corridor or to enter China. Dismayed, but confident they have vindicated Polo, the three explorers climb aboard their sole remaining motorcycle and head for home. China must wait for another day. And I for one hope that if Severin ever makes it there he'll write about it. *Tracking Marco Polo*, witty and moving and filled with adventure, deserves a sequel.

Ronald Varney
New York writer and reviewer

The Birth of the National Park Service: The Founding Years, 1913-33
Horace M. Albright,
as told to Robert Cahn
Howe Brothers, $19.95

"You and I know more about the parks than any other men on Earth," Horace Albright wrote Stephen Mather in 1919. "The National Park Service is our child." This was no exaggeration. At the time Mather was the Service's first director, Albright his top assistant. Both had been instrumental in its creation: enactment of the so-called National Park Service Organic Act in 1916.

A native of Bishop, California, in the shadow of the High Sierra, Albright was 26 in 1916. This year he turns 96, still keen of intellect and so modest by nature that distinguished environmental writer Robert Cahn had to present him with a virtual book accompli—made up of transcribed tapes of their sporadic conversations—before Albright would consent to become an autobiographer.

The Birth of the National Park Service depicts a genial era, when people seem to have rubbed shoulders more easily than they do now. An elderly stranger asking Albright for directions on a Washington, D.C., street corner might turn out to be Thomas A. Edison. A junior federal bureaucrat like Albright could serve as wilderness

Albright (left) was Yellowstone guide for Swedish Crown Prince Gustav Adolf.

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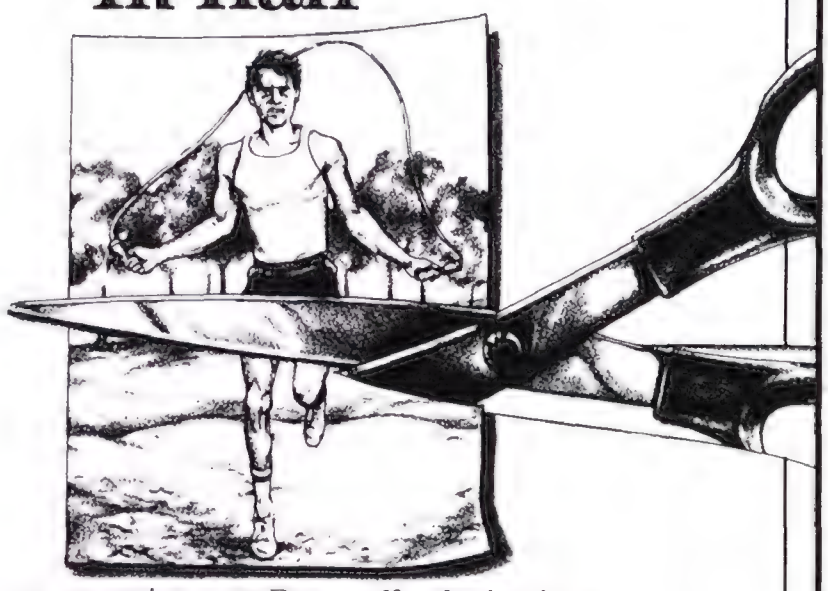

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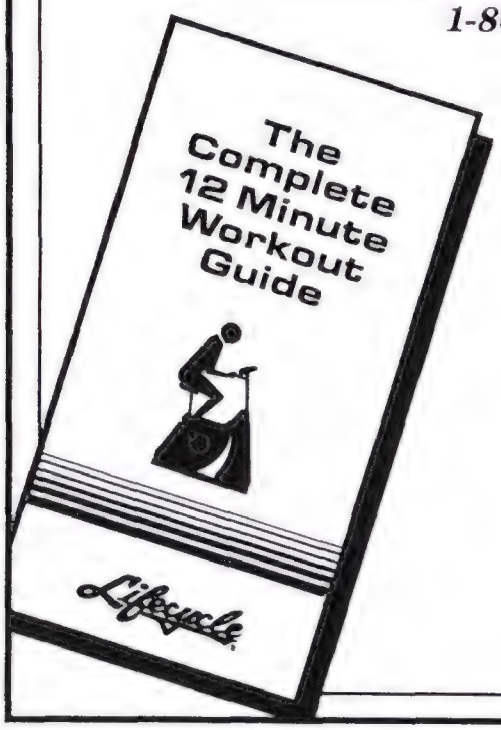

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escort for kings and Presidents. Indeed, his longevity in office owes something to his familiarity—achieved on the job—with Harding, Coolidge, Hoover and Roosevelt.

Albright had a knack highly prized in an assistant, especially when the chief was as mercurial as Mather: facilitating exits from untenable positions. A wealthy man who subsidized his employees' salaries and underwrote the publication of a slick brochure in aid of the Park Service legislation, Mather was also a hothead given to impulsive acts and subject to bouts of depression. When the Great Northern Railroad delayed in removing a sawmill from Glacier National Park past the deadline Mather had set, he personally dynamited the structure to bits. On a visit to Yellowstone, of which Albright was then superintendent, Mather stationed himself beside a popular waterfall and bossed tourists around so offensively that Albright ordered him to stop playing ranger. After Mather had a stroke (later a second one killed him), Albright took over the directorship in 1929.

In his new position he accomplished his longstanding goal of having the national battlefields transferred from the War Department's jurisdiction to the Park Service's. The ostensible reason for the reorganization, which President Franklin Roosevelt accomplished by executive order, was to manage and interpret the sites more skillfully. But it was not lost on the savvy Albright that addition of the mostly eastern battlefields would balance the Park Service's decided westward bent and make for a truly national system. Shortly afterward Albright resigned to become vice president of a mining company. "I had been putting them off for several years. . . . I had my family's financial future and my two children's education to consider." He recalls, though, "In my heart I never really left the National Park Service."

What heady days the young Albright must have had—drafting the Presidential proclamation that set aside Katmai National Monument in Alaska, at two million acres an area larger than Yellowstone; providing John D. Rockefeller with multimillion-dollar estimates for purchasing the land to constitute Grand Teton National Park and hearing the old man say, "We'll do it"; hiring a dirigible to fly him and his colleagues over Florida to scout sites for the proposed Everglades National Park.

Kudos to Robert Cahn for chasing Horace Albright so tirelessly—and to Albright for finally letting himself be caught.

Dennis Drabelle
Washington critic and travel writer

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Counterfeiting (p. 34)

"Fakebusters—how technology spots counterfeits" by Michael Neubarth, *Popular Science*, April 1986

"Waging War on Bogus Goods" by Bob Gatty, *Nation's Business*, August 1984

"The Crass Menagerie: Phony Alligators, Bogus Gremlins, and Other Fakes" by Barry Rehfeld, *New York*, October 15, 1984

"Designs on Counterfeiters" by Bob Gatty, *Nation's Business*, November 1985

"Vast Counterfeiting Racket Floods Market With False Goods" by Jesse F. Gelders, *Popular Science Monthly*, March 1934

Charlie Chaplin (p. 46)

Charlie Chaplin: His Life and Art by David Robinson, McGraw-Hill, 1985

My Father, Charlie Chaplin by Charles Chaplin jr. with N. and M. Rau, Popular Library, 1961

The Little Fellow: The Life and Work of Charles Chaplin by Peter Cotes and Thelma Niklaus, Citadel Press (New York), 1965

A History of Films by John L. Fell, Holt, Rinehart and Winston, 1979

Peggy Guggenheim (p. 58)

Peggy Guggenheim Collection, Venice by Angelica Zander Rudenstine, Harry N. Abrams and the Solomon R. Guggenheim Foundation (New York), 1985

Out of This Century: Confessions of an Art Addict by Peggy Guggenheim, Universe Books (New York), 1979

Art of This Century: Objects-Drawings-Photographs-Paintings-Sculpture-Collages, 1910 to 1942 (catalog), edited by Peggy Guggenheim, Art of This Century (New York), 1942

The Peggy Guggenheim Collection, text by Lucy Flint, conception and selection by Thomas M. Messer, Harry N. Abrams

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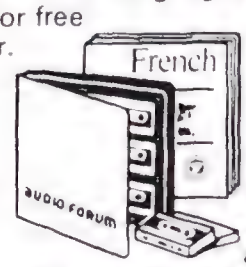

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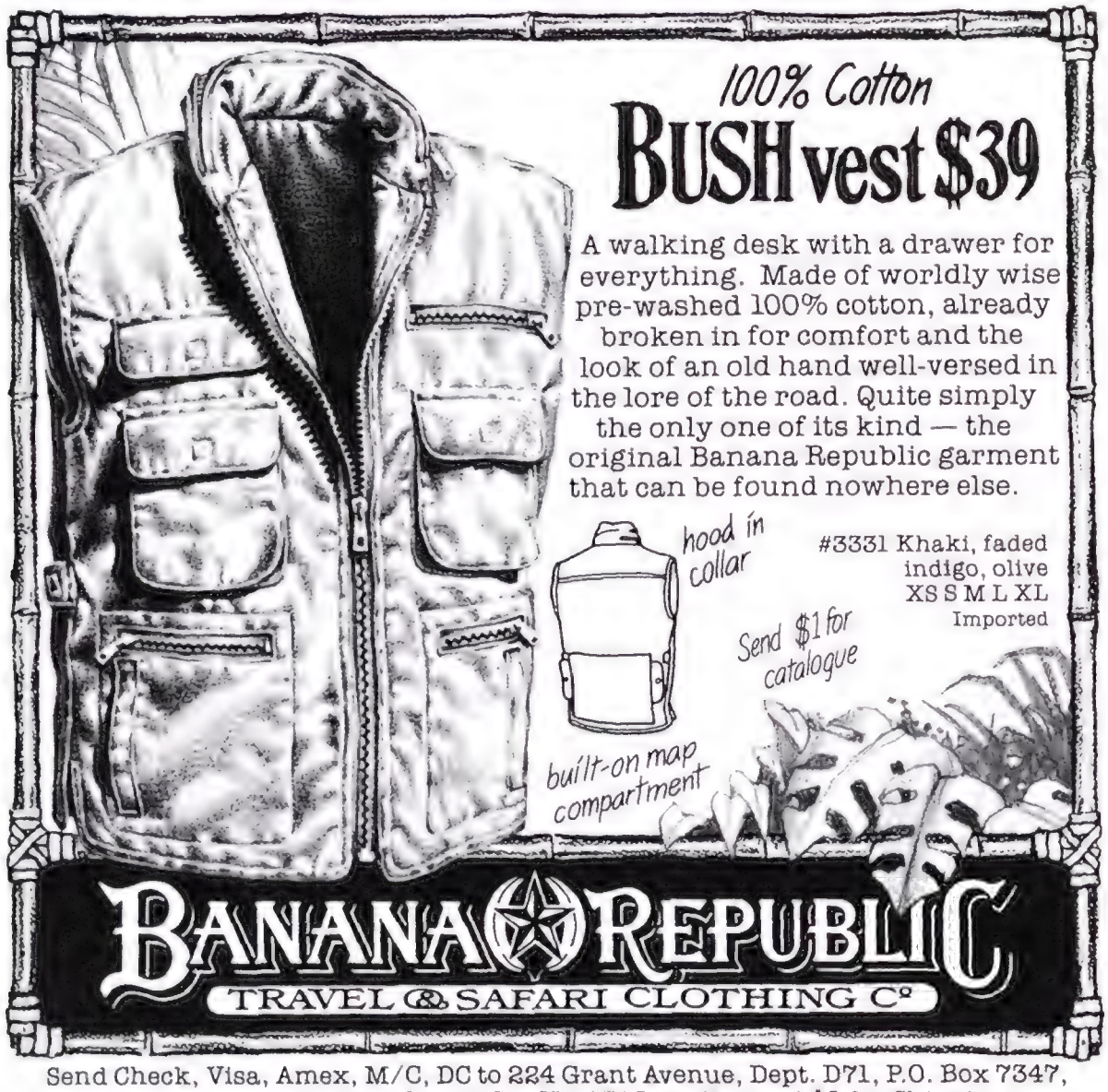
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and the Solomon R. Guggenheim Foundation, 1983

Harbor pilots (p. 68)

From Sandy Hook to 62° by Charles E. Russell, Century Company (New York), 1929

Pilot Lore by United New York and United New Jersey Sandy Hook Pilots Benevolent Associations (New York), 1922

State Pilotage in America, produced by Capt. Ernest Clothier, American Pilots Association (Washington, D.C.), 1979

Harbor and Haven: An Illustrated History of the Port of New York by John G. Bunker, Windsor Publications (Woodland Hills, California), 1979

Domesday Book (p. 82)

Official Guide to Domesday Year by the National Domesday Committee, Millbank Publications (London), 1986

Hereward the Wake, "Last of the English" by Charles Kingsley, Folcroft, 1886

Domesday Book (35 vols.), first English translation, edited by John Morris, Phillimore (West Sussex), 1975-85

The Domesday Book: England's Heritage, Then and Now, edited by Thomas Hinde, Hutchinson (London), 1985

Moose (p. 98)

"Moose, *Alces alces*" by John W. Coady, *Wild Mammals of North America: Biology, Management, and Economics*, edited by Joseph A. Chapman and George A. Feldhamer, Johns Hopkins University Press, 1982

"*Alces alces*" by Albert W. Franzmann, *Mammalian Species* (American Society of Mammalogists, Shippensburg, Pennsylvania), Vol. 154, 1981

Soda fountains (p. 114)

A History of the American Soft Drink Industry by John J. Riley, Arno Press (reprint edition), 1972

The Great American Ice Cream Book by Paul Dickson, Atheneum, 1978

"Brown Cows and Walking Sundaes" by Elizabeth R. Pearce, *Gourmet*, July 1983

"Our Filling Station: The Soda Fountain" by Eunice Fuller Barnard, *New York Times Magazine*, February 2, 1930

Halley's Comet (p. 128)

"Encounters with Comet Halley: The First Results," *Nature*, Vol. 321, No. 6067-Supplement, 1986

Comet by Carl Sagan and Ann Druyan, Random House, 1985

Asimov's Guide to Halley's Comet by Isaac Asimov, Walker (New York), 1985

"An Inside Look at Halley's Comet" by J. Kelly Beatty, *Sky and Telescope*, May 1986

Smithsonian highlights

The 20th Annual Festival of American folklife will continue July 2-6 with its celebration of Japan, Tennessee, the occupational folk traditions of trial lawyers and a variety of crafts. In addition, there will be all-day concerts featuring outstanding musicians from previous years. Every night except July 4, there will be a dance party led by festival artists.

Visitors to the festival site, located on the National Mall between 10th and 14th streets, will find some unexpected exhibits. Japanese rice-planting ceremonies and folk dances will take place next to a 33-by-73-foot rice paddy guarded by a 13-foot-tall rice-straw samurai. Those who drop by the Tennessee program will find a traditional, operating "moonshine" still (sorry, no free samples). There will also be lawyers arguing cases and then explaining to the audience the motives and techniques behind their presentations; and numerous crafts including Cherokee basketry, Hmong embroidery, Afro-American quilting and Southern pottery.

All events are free. For recorded announcements of daily highlights, call the Smithsonian's Dial-A-Museum, (202) 357-2020.

Special July exhibits and events

National Air and Space Museum

NASM is 10 (July 1; 10 A.M.-5 P.M.) Tenth anniversary celebration features musical groups, model aircraft demonstrations and magician balloon sculptor.

Air Traffic Control (opens July 6; runs indefinitely) Simulated control tower.

Freer Gallery of Art

From Concept to Context: Approaches to Islamic and Asian Calligraphy (July 29-November 16) Examples from China, Japan and the Near East.

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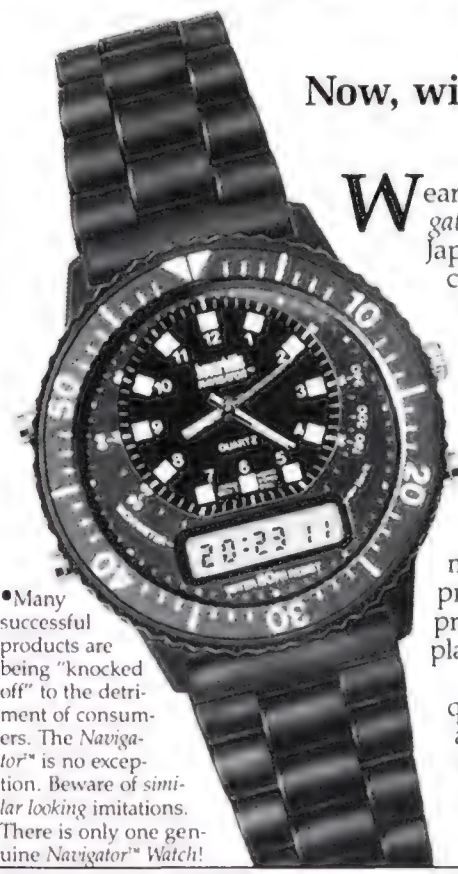

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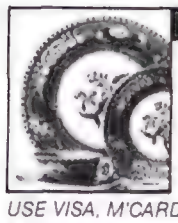

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Cooper-Hewitt Museum (New York)
Tall Ships (through September 14) Embroidered ship portraits done by sailors during slow times at sea.

National Portrait Gallery
Through Light and Shadow: Photographs by Clara Sipprell (through November 30).

Planning a Smithsonian visit?

Get a head start—send postcard request or call for a free Associates' Planning Packet: Associates' Reception Center, Smithsonian Institution, Washington, D.C. 20560; (202) 357-2700 or TDD for hearing impaired (202) 357-1729. Begin your visit at the Associates' Reception Desk in the Castle, where from 10 A.M. to 4 P.M. daily you will receive a cordial welcome, printed materials in a handy bag, and full details about your benefits.

Exhibition catalogs

Catalogs available at this time include:
After the Revolution (cloth, $24.95)
Magnificent Voyagers, The U.S. Exploring Expedition 1838-1842 (cloth, $39.95; paper, $19.95)
Robert Arneson (paper, $16)
John Frazee: Sculptor (1790-1852) ($10)
Patrick Ireland: Drawings 1965-1985 ($6)
The Art of Turned Wood Bowls: A Gallery of Contemporary Masters & More (cloth, $29.95; paper, $16.95)
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To order, send check or money order to Museum Shops, Box 44083, Washington, D.C. 20026-0083. Include 15 percent of total purchase to cover postage and handling (minimum, $1.75).

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Radio Smithsonian: features on this weekly half-hour series include a retrospective of the sculpture of Robert Arneson and a close-up look at gems.
Smithsonian Galaxy: short radio features explore history, science, art.
Here at the Smithsonian . . .: short TV features present the sights, sounds and behind-the-scenes activities.

To find out what stations in your area carry these programs, write: Office of Telecommunications, MAH Room BB40, Washington, D.C. 20560.

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Brass Roots: The Annapolis Brass Quintet and the Netherlands Philharmonic Brass Quintet (July 1; 7:30 P.M.) Concert.
An Immigrant's Tale: Hester Street (July 2; 7:30 P.M.) Film.
Ganelin Trio (July 6; 7:30 P.M.) The first Soviet jazz ensemble to tour the United States.
Travel in America: New Tourist Destinations (Six evenings beginning July 10; 6 P.M.) Lecture series.
Celeste (July 10; 8 P.M.) Film by German director Percy Adlon.

Smithsonian Institution Traveling Exhibition Service

SITES circulates exhibitions to hundreds of cities outside Washington. To sponsor a show in your community, write SITES, Smithsonian Institution, Washington, D.C. 20560. Here are some July exhibits:
Baltimore (July 19-November 2) *The Laser at 25*, Maryland Science Center.
Colorado Springs (July 5-August 17) *Homage to Amanda: Two Hundred Years of American Quilts from the Collection of Edwin Binney, 3rd, and Gail Binney-Winslow*, Pioneers Museum.
Green Bay, Wisconsin (July 24-September 5) *Treasures of the Land, New Zealand Craftsmen and Their Native Materials*, Neville Public Museum.
Midland, Michigan (July 12-August 24) *Material Evidence: New Color Techniques in Handmade Furniture*, Midland Art Council Center for the Arts.

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Turning to wood at the Renwick

For most of us, the only turned wood bowl we can call to mind is the one from which we eat our salad. But for more than 3,000 years, craftsmen holding sharp tools have cut whirling blocks of wood into intricate and exquisite shapes. Many of the pieces have had no purpose whatever other than to be held and admired.

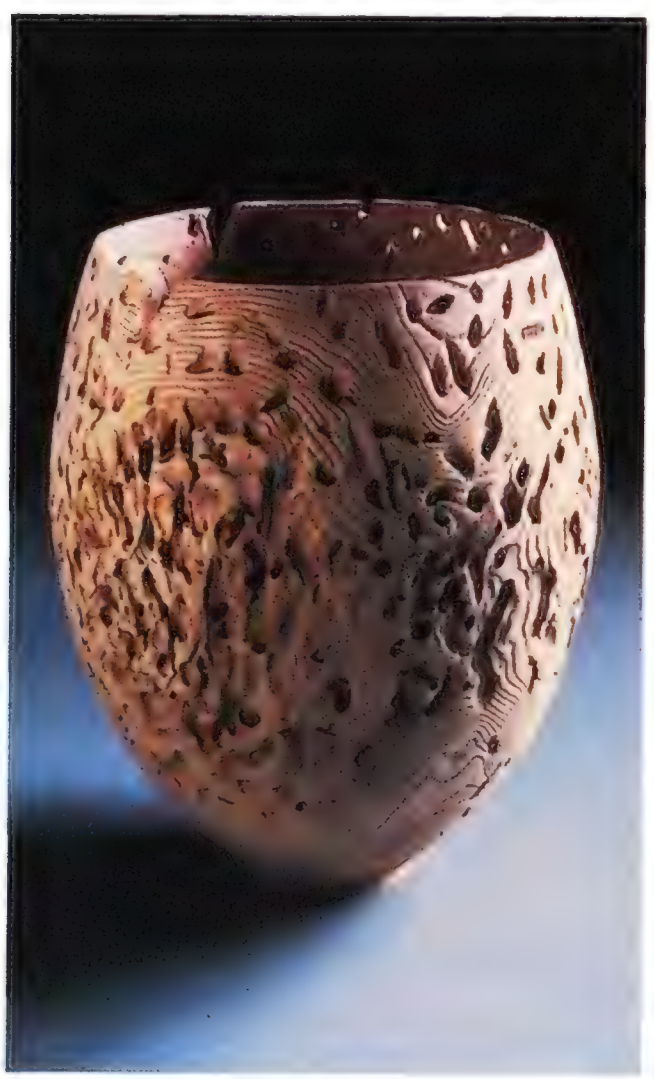
By modern times, this ancient technique had been largely replaced by factory production. Then, during the 1930s, sculptor James Prestini and others reversed the trend and started a strong revival of the craft. One who chooses wood as a medium regards it much as a painter regards his palette. He holds the block in his hands, rotating it this way and that; the texture, pattern and hues suggest the object's final form.

Edward Jacobson, a lawyer who lives in Phoenix, Arizona, has put together the first collection of contemporary turned wood bowls. From that collection, 87 pieces were organized into a show by Arizona State University in Tempe. It is now at the Renwick Gallery through September 28; later it will travel under the auspices of SITES.

Beautiful as these wooden objects are to look at, the only regret is that a visitor to the show can't also handle them. Collector Jacobson knows this. "Wood wants to be touched," he says. "I guess if I were going to come back in a second life, I'd be a tree."
Constance Bond

Flower-shaped bowl was turned by Hap Sakwa in 1982; the wood is wild lilac.

Master turners are amazed that Dale Nish could work this wormholed ash on lathe.



David Ellsworth's hollow tube of sugar maple makes no pretense of usefulness.

Del Stubbs turned three-inch-high bowl using green wood; it dried asymmetrically.

This bowl was first turned on a lathe by Bill Hunter, then he carved the flutes.

Pieced bowl by Canadian Stephen Hogbin required two turnings out of one block.

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Middle Fork August 5-13: An unforgettable river trip on Idaho's Salmon River.

Crow Canyon Archaeology August 24-31: Join archaeologists near Mesa Verde, Colorado, to participate in a dig.

Delta Queen September 11-19: Take a steamboat journey to America's past from Cincinnati to St. Louis.

Grand Canyon September 12-22: Raft with expert boatmen through magnificent scenery.

Alaska September 20-30: Cruise Inside Passage to explore fishing villages and quiet inlets between Ketchikan and Seattle. Ship's shallow draft allows close viewing of wildlife and magnificent landscape.

Treasure Houses of Early America September 20-27: From Wilmington, Delaware, join exclusive tour of Winterthur, Longwood Gardens and the Brandywine Valley.

Maine September 20-28: Hike rocky coast, inland mountains with naturalist.

Essence of Philadelphia October 15-19: Discover the people, neighborhoods and cultural institutions that shape the city.

Okefenokee Swamp October 11-18: Canoe and camp in this wilderness sanctuary for millions of singing creatures.

Chesapeake Bay and the Colonial South October 27-November 5: Sail on the elegant *Illiria* from Philadelphia to Nassau including stops at Savannah and Charleston.

Cajun Country November 3-10: Experience Louisiana, from New Orleans jazz, Creole cooking to mysteries of the bayou.

Christmas at the Smithsonian December 5-7: Welcome the holidays with tours, music and festive dining at selected museums.

Everglades December 6-13: For the novice or expert, canoe and camp among the Ten Thousand Islands along the west coast of Florida.

Christmas in Santa Fe December 21-28: Experience the festive traditions of the Spanish and Indian cultures of the Southwest.

Virgin Islands February 1-8: Relax aboard your private yacht, *Nantucket Clipper*, while exploring these delightful Caribbean islands.

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Crown Jewels of the Hapsburg Empire September 6-21: Explore museums, cultural life in Prague and Vienna with emphasis on Central European art, history.

Oxford Smithsonian Seminar September 12-27: Be an Oxford Scholar. Attend classes and field trips.

Yugoslavia September 18-October 3: Discover Oriental cities with mosques, medieval towns with castles set against Alps.

Scandinavian Design—Past and Present September 21-October 5: Enjoy a wealth of artistic expression; see museums, galleries, design ateliers, artists' studios.

Black Forest Walking Tour September 27-October 10: St. Moritz and the Black Forest provide spectacular sights for hikers.

In Pursuit of Brazil September 30-October 17: An enormous land of contrasts and exuberance to fascinate you.

Canals and Countryside October 1-12: Cruise through picturesque English and Welsh countryside on famous canals.

Voyage to Mythical Lands October 1-15: Sail to Aegean islands rich with legends reflecting ancient cultures. Discover the Byzantine grandeur of Constantinople.

Bermuda October 16-23: Reside at Biological Research Station while exploring island's diverse habitats.

India—Arts & Crafts October 17-November 8: Study the rich decorative elements of this exotic land. Visits include Delhi, Agra, Kashmir and Bombay.

Paris and the Provinces October 18-November 1: Travel in Côte d'Azur, Brittany or Provence, then spend six days in Paris.

Atlantic Crossing November 29-December 14: A sailing adventure with lectures, from the Canary Islands to Martinique on the four-masted *Sea Cloud*.

Christmas in Europe Celebrate with fellow Associates in one of four idyllic settings: Munich and Rothenburg; Winchester; Salzburg and Vienna; or Canterbury.

Write National Associates, Capital Gallery 455, Smithsonian Institution, Washington, DC 20560 or call (202) 287-3362 for tour brochures

in Washington

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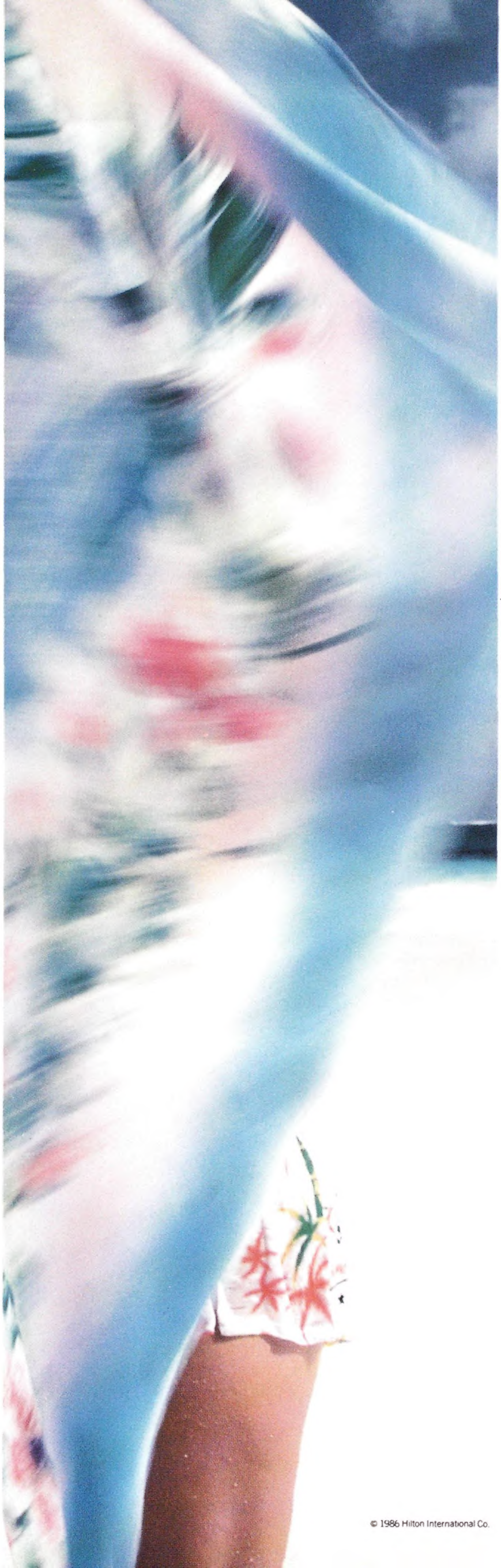

When I was a child, my nanny would read me stories like Treasure Island and Swiss Family Robinson. And I fell in love with the idea of shipwrecks and pirates and deserted islands in the sun.

So every time my husband and I come to the Kahala, the chef packs us an amazing feast and we sail the hotel's boat to the Kahala's tiny, private jewel of an island just offshore.

With my scarf as a blanket, we doze in the sun, recite what bits of poetry we can still snatch from our memories. And when we leave our deserted isle, we arrive at the hotel in time for some of the western world's most civilized dining and dancing.

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By Donald Dale Jackson

The confessions of an almanacophiliac

You say the sun is out at your house in Lander, Wyoming? Hold it a minute . . . OK, here it is on page 759. Skies were clear in Lander 117 days in 1984. Planning a trip to Las Vegas? There's an item for you on page 771. The odds that you'll roll a 7 on any one toss of the dice are five to one. It's 35 to 1 on snake eyes or boxcars. You know that baby rabbit your son Chris is raising in the garage? Well, it says right here on page 137 that a baby rabbit is properly called a "leveret." Try asking Chris to clean out the leveret cage.

I'll be honest: I wouldn't have known these things if I didn't have the 1986 *World Almanac and Book of Facts,* my favorite book, which with beguiling immodesty calls itself "The Authority since 1868." Old almanacs perch on a shelf in my room like starlings on a phone line. I've been reading them ever since I got sick at age eight and had nothing else to read. Before the doctor let me out of bed I knew the Presidents of the United States in order (after Jefferson it gets harder), the state capitals (Kentucky's is not Louisville) and the 20 largest cities by population (the tenth is now San Antonio, Texas). I was stunned to discover this did not make me more popular with other eight-year-olds.

I like everything about the almanac. I like its tiny type, which seems somehow more authoritative. I like the editors' stern declaration on the second page that the almanac "does not decide wagers," which I suspect means "don't call us looking to settle your dumb bet." I like its grand all-inclusive index and its sly attempts at humor.

Some sections, like "Entertainment Personalities—Where and When Born," I find irresistible. I cannot explain why it strikes me as so interesting that Bo Derek was born November 20, 1956, in Long Beach, California, or that Donald Sutherland first blinked in St. John, New Brunswick, on July 17, 1934. Am I some kind of fact-crazed drone? Trivia showoff? Gossip monger?

I even enjoy the "Original Names of Selected Entertainers." Here we learn that Karl Malden's real name was Malden Sekulovich, Stevie Wonder was Stevland Morris and Walter Matthau shuffled around for years as Walter Matuschanskayasky.

The animal section offers an entry on speed: cheetahs are fleetest at 70 miles per hour, followed by pronghorn antelope at 61 and lions at 50. Top speed for a human, no doubt a thin and frightened one, is 27.89 mph. Cats, wart hogs and grizzly bears were all clocked at 30, which means they would finish in a dead heat if there were an animal Olympics (although the cat would probably not stay in its lane). Slowest of all creatures is the garden snail, which with its accelerator floored can do only .03 mph. I can't help wondering how they measured the snail's velocity. Maybe they made a tiny runway in the mating season and put a female at the finish line.

Someone at almanac headquarters must be a word nut because we get not only the odd names for animal young like leveret but also a round-up of the collective nouns for specific animals in groups. It goes way beyond such old familiars as an *exaltation* of larks. Goldfinches in company are a *charm*, swine are a *drift* ("Henry, where's that drift of swine headed?") and rhinos are, naturally, a *crash*.

The three most popular U.S. dogs are cockers, poodles and Labrador retrievers, with goldens closing in fast. Curiously, there is no mention of the odd strain exemplified by our family dog, a sheepdog-Schnauzer-unspecified mix we sometimes refer to as a Bulgarian Inglebritz.

Recent editions include a selection of the year's "Off-Beat News Stories." My favorite this year concerns a spectacularly inept hitchhiker-thief in Brookfield, Connecticut. After bopping the driver in the nose and grabbing his wallet, this desperado discovered when he got home that 1) the wallet he stole was empty and 2) that he had left his own wallet, containing $70, in the victim's car. The thief phoned the victim and proposed an exchange. The victim agreed to a meeting, then called the police. Felons like this give crime a bad name.

But it's the discovery of artless little gems of nonjudgmental fact that makes almanac reading satisfying. In Rhode Island a girl can get married at 12 with her parents' consent; the per capita annual income in the Persian Gulf emirate of Qatar is $35,000, the same as the salary paid the governors of Arkansas and Maine; life expectancy for a baby boy born in Angola is 40.6 years; population density in Alaska is 0.7 per square mile—which may explain why it's the only state without a nickname. The almanac is tough on cherished myths: on page 456 it pooh-poohs the familiar Betsy-Ross-made-the-first-American-flag story. (It seems nobody knows *how* the flag got made.)

The only thing that bothers me about the almanac is that my name isn't in it. I used to think that I'd have to win a major award, play in the World Series or start a religion, none of which appeared really likely. But I'm working on a new approach that might get me in the almanac—at least as a statistic. I see by the table on page 164 that the government didn't subsidize anyone in Maine for growing rice last year. So all I need to do is get a rice crop going there—just north of Bangor, say, and I'm in the book. The table will say 1 where it now says 0.

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